

USR-M0 Series AT Command Set

File version: 1.0.0

Content

| | |
|---|----|
| 1. What is the AT command..... | 3 |
| 2. How to use the AT command..... | 3 |
| 3. How to enter serial AT command mode..... | 3 |
| 4. AT command set..... | 3 |
| 5. AT command details..... | 5 |
| 6. Contact..... | 15 |
| 7. Disclaimer..... | 15 |
| 8. Update History..... | 15 |

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.

3. How to enter serial AT command mode

Please read this FAQ about entering serial AT command mode.

<https://www.pusr.com/support/faq/how-to-send-at-command.html>

4. AT command set

| Command | Function |
|-----------------|--|
| E | Enable/disable the echo function |
| Z | Restart module |
| VER | Query the version |
| ENTM | Exit AT command mode |
| RELD | Reset default settings |
| MAC | Query module MAC address |
| WEBU | Setting/ query username and password |
| WANN | Setting/ query WAN port parameters |
| DNS | Setting/ query DNS server address |
| WEBPORT | Setting/ query web server port |
| UART | Setting/ query serial parameters |
| SOCK | Setting/ query network protocol |
| TCPSE | Setting/ query whether kick off older connection |
| SOCKLK | Query TCP connection status |
| SOCKPORT | Setting/ query source port number |
| RFCEN | Setting/ query RFC2217 enable |
| PDTIME | Query the product time |
| REGEN | Setting/ query registration package mechanism |
| REGTCP | Setting/ query registration package perform mechanism |
| REGCLOUD | Setting/ query USR-Cloud username and password |
| REGUSR | Setting/ query the content of registration package that customized |
| HTPTP | Setting/ query in httpd client mode, HTTPD request |

| | |
|------------------|---|
| | mode |
| HTPURL | Setting/ query the URL in httpd client mode |
| HTPHEAD | Setting/ query the package head in httpd client |
| HTPCHD | Setting/ query HTP remove the package head |
| HEARTEN | Setting/ query heartbeat package enable |
| HEARTTP | Setting/ query method of the heartbeat package send |
| HEARTTM | Setting/ query the heartbeat package time |
| HEARTDT | Setting/ query customize heartbeat package |
| SCSLINK | Setting/ query the indicating function of the status of socket connection |
| CLIENTRST | Setting/ query the TCP client mode reset function enable/disable |
| INDEXEN | Setting/ query index function |
| SOCKSL | Setting/ query short connection function |
| SHORTO | Setting/ query short connection time |
| UARTCLBUF | Setting/ query clear serial port cache before module build connection function enable/disable |
| RSTIM | Setting/ query timeout reset time |
| MAXSK | Setting/ query maximum client connections in TCP server mode |
| MID | Setting/ query module name |
| H | Query help message |

5. AT command details

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

5.1. AT+E

| Format | |
|--------|------------------------------|
| Query | AT+E<CR> |
| Return | <CR><LF>+OK=<on/off><CR><LF> |
| Set | AT+E=<on/off><CR> |
| Return | <CR><LF>+OK<CR><LF> |

Note: Default setting of echo function is on, user can send above command to close, then send above command again to open.

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 | |
|--------|---------------------|
| Set | AT+ENTM<CR> |
| Return | <CR><LF>+ok<CR><LF> |

5.5. AT+RELD

| Format | |
|--------|----------------------------------|
| Set | AT+RELD<CR> |
| Return | <CR><LF>+ok=rebooting...<CR><LF> |

5.6. AT+MAC

| Format | |
|--------|--|
|--------|--|

| | |
|---------------|--|
| Set | AT+MAC<CR> |
| Return | <CR><LF>+ok=<MAC><CR><LF> |

5.7. AT+WEBU

| Parameter | Description | Default Value | Range |
|---------------|--|---------------|--------------------|
| <Username> | Username of Web Server | admin | Less than 16 bytes |
| <Password> | Password of Web Server | 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> | | |

5.8. AT+WANN

| Parameter | Description | Default Value | Range |
|---------------|---|---------------|-------------------------|
| <Mode> | IP address of module WAN port (DHCP/STATIC) | STATIC | static/DHCP |
| <IP address> | IP address of WAN | 0.0.0.0 | 0.0.0.0~255.255.255.255 |
| <Mask> | Mask of WAN | 0.0.0.0 | 0.0.0.0~255.255.255.255 |
| <Gateway> | Gateway address | 0.0.0.0 | 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+DNS

| Format | |
|---------------|--|
| Query | AT+DNS<CR> |
| Return | <CR><LF>+ok=<address><CR><LF> |
| Set | AT+DNS=<address><CR> |
| Return | <CR><LF>+ok<CR><LF> |

5.10. AT+WEBPORT

| Format | |
|---------------|---|
| Query | AT+WEBPORT<CR> |
| Return | <CR><LF>+ok=<port><CR><LF> |
| Set | AT+DNS=<port><CR> |
| Return | <CR><LF>+ok<CR><LF> |

Note: Web server port default is 80.

5.11. AT+UART

| Parameter | Description | Default Value | Range |
|----------------|---|---------------|------------------------------|
| <Baud rate> | Baud rate | 115200 | 600~460800bps |
| <Data bit> | Data bit | 8 | 5, 6, 7, 8 |
| <Stop bit> | Stop bit | 1 | 1, 2 |
| <Parity> | Parity | NONE | NONE, EVEN, ODD, MASK, SPACE |
| <Flow Control> | Flow Control | NFC | NFC: No flow control |
| Format | | | |
| Query | AT+UART<CR> | | |
| Return | <CR><LF>+ok=<Baud rate>,<Data bit>,<Stop bit>,<Parity>,<Flow Control><CR><LF> | | |
| Set | AT+UART=<Baud rate>,<Data bit>,<Stop bit>,<Parity>,<Flow Control><CR> | | |
| Return | <CR><LF>+ok<CR><LF> | | |

5.12. AT+SOCK

| Parameter | Description | Default Value | Range |
|------------|--|---------------|--------------------------|
| <Protocol> | Network protocol | TCPC | TCPC/TCPS/UDPC/UDPS/HTPC |
| <IP> | Remote Server address in client mode | 192.168.0.201 | 0.0.0.0~255.255.255.255 |
| <Port> | Destination port | 8234 | Less than 65535 |
| Format | | | |
| Query | AT+SOCK<CR> | | |
| Return | <CR><LF>+ok=<Protocol>,<IP>,<Port><CR><LF> | | |
| Set | AT+NETP=<Protocol>,<IP>,<Port><CR> | | |
| Return | <CR><LF>+ok<CR><LF> | | |

5.13. AT+TCPSE

| Parameter | Description | Range |
|-----------|--|-----------|
| <Status> | Processing mechanism after the maximum number of connections | Keep/kick |
| Format | | |
| Query | AT+TCPSE<CR> | |
| Return | <CR><LF>+ok=<Status><CR><LF> | |
| Set | AT+TCPSE=<Status><CR> | |
| Return | <CR><LF>+ok<CR><LF> | |

5.14. AT+SOCKLK

| Parameter | Description | Range |
|-----------|-------------------------------|--------------------|
| <Sta> | Whether the TCP has connected | Connect/disconnect |
| Format | | |
| Query | AT+SOCKLK<CR> | |
| Return | <CR><LF>+ok=<Sta><CR><LF> | |

5.15. AT+SOCKPORT

| Parameter | Description | Range |
|-----------|---------------------------|--|
| <Sta> | Source socket port | 0: random port 1~65535: source port |
| Format | | |
| Query | AT+SOCKPORT<CR> | |
| Return | <CR><LF>+ok=<Sta><CR><LF> | |
| Set | AT+SOCKPORT=<Time><CR> | |
| Return | <CR><LF>+ok<CR><LF> | |

5.16. AT+RFCEN

| Parameter | Description | Range |
|-----------|---------------------------------|--------|
| <Status> | Enable/ disable RFC2217function | 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> |

5.17. AT+PDTIME

| Parameter | Description |
|-----------|----------------------------|
| <Time> | Produce time |
| Format | |
| Query | AT+PDTIME<CR> |
| Return | <CR><LF>+ok=<time><CR><LF> |

5.18. AT+REGEN

| Parameter | Description | Default Value | Range |
|-----------|------------------------------|---------------|---|
| <Status> | Status of identity packet | off | mac: Use 6 bytes MAC address as identity packet |
| | | | usr: Use user editable identity packet |
| | | | off: Disable the identity packet function |
| Format | | | |
| Query | AT+REGEN<CR> | | |
| Return | <CR><LF>+ok=<Status><CR><LF> | | |
| Set | AT+REGEN=<Status><CR> | | |
| Return | <CR><LF>+ok<CR><LF> | | |

5.19. AT+REGTCP

| Parameter | Description | Default Value | Range |
|-----------|--------------------------------|---------------|--|
| <Status> | Identity packet sending method | first | first: Only sending identity packet before first packet after firstly connecting to server |
| | | | every: Sending identity packet in every packet. |
| Format | | | |
| Query | AT+REGTCP<CR> | | |
| Return | <CR><LF>+ok=<Status><CR><LF> | | |
| Set | AT+REGTCP=<Status><CR> | | |
| Return | <CR><LF>+ok<CR><LF> | | |

5.20. 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> | |

5.21. AT+REGUSR

| Parameter | Description | Default Value | Range |
|---------------|----------------------------------|--------------------------|---|
| <Data> | User custom identity packet data | 7777772E7573722 E636E | Length: Less than 40 bytes, HEX format |
| Format | | | |
| Query | AT+REGUSR<CR> | | |
| Return | <CR><LF>+ok=<Data><CR><LF> | | |
| Set | AT+REGUSR=<Data><CR> | | |
| Return | <CR><LF>+ok<CR><LF> | | |

5.22. 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> | | |

5.23. AT+HTPURL

| Parameter | Description | Default Value | Range |
|---------------|---------------------------|---------------|--|
| <URL> | HTTP URL | /2.php? | Start with “/” , less than 30 bytes |
| Format | | | |
| Query | AT+HTPURL<CR> | | |
| Return | <CR><LF>+ok=<URL><CR><LF> | | |
| Set | AT+HTPURL=<URL><CR> | | |
| Return | <CR><LF>+ok<CR><LF> | | |

5.24. AT+HTPHEAD

| Parameter | Description | Default Value | Range |
|-----------|------------------|--|---|
| <Header> | HTTP header data | User_Agent: Mozilla/4.0 Connection: close | Length: 0~200 bytes, <<CRLF>> instead of “\r\n” |

| Format | |
|--------|------------------------------|
| Query | AT+HTPHEAD<CR> |
| Return | <CR><LF>+ok=<Header><CR><LF> |
| Set | AT+HTPHEAD=<Header><CR> |
| Return | <CR><LF>+ok<CR><LF> |

5.25. AT+HTPCHD

| Parameter | Description | Default Value | Range |
|-----------|--|---------------|--------|
| <Sta> | Filter the header of the returned data | Off | On/off |
| Format | | | |
| Query | AT+HTPCHD<CR> | | |
| Return | <CR><LF>+ok=<Sta><CR><LF> | | |
| Set | AT+HTPCHD=<Sta><CR> | | |
| Return | <CR><LF>+ok<CR><LF> | | |

5.26. 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> | | |

5.27. AT+HEARTTP

| Parameter | Description | Default Value | Range |
|-----------|------------------------------------|---------------|--------------------------------|
| <Type> | Sending method of heartbeat packet | NET | NET: Sending to Network Server |
| | | | COM: Sending 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> | | |

5.28. AT+HEARTTM

| Parameter | Description | Default Value | Range |
|------------|------------------------------------|---------------|------------------------------|
| <Interval> | Heartbeat package sending interval | 30s | Can be set between 1-65535s. |
| Format | | | |
| Query | AT+HEARTTM<CR> | | |
| Return | <CR><LF>+ok=<Interval><CR><LF> | | |

| | |
|--------|---------------------------|
| Set | AT+HEARTTM=<Interval><CR> |
| Return | <CR><LF>+ok<CR><LF> |

5.29. AT+HEARTDT

| Parameter | Description | Default Value | Range |
|---------------|----------------------------|--------------------------|------------------------------|
| <Data> | Heartbeat packet data | 7777772E7573 722E636E | Less than 40 bytes, ASCII |
| Format | | | |
| Query | AT+HEARTDT<CR> | | |
| Return | <CR><LF>+ok=<Data><CR><LF> | | |
| Set | AT+HEARTDT=<Data><CR> | | |
| Return | <CR><LF>+ok<CR><LF> | | |

5.30. AT+SCSLINK

| Parameter | Description | Range |
|---------------|---------------------------------------|--------|
| <Sta> | Connection status indication function | On/off |
| Format | | |
| Query | AT+SCSLINK<CR> | |
| Return | <CR><LF>+ok=<Sta><CR><LF> | |
| Set | AT+SCSLINK=<Sta><CR> | |
| Return | <CR><LF>+ok<CR><LF> | |

5.31. AT+CLIENTRST

| Parameter | Description | Range |
|---------------|---|---|
| <Sta> | TCP Client mode filed to connect several time and reset | Repeat 30 times connection failed, module restart |
| Format | | |
| Query | AT+CLIENTRST<CR> | |
| Return | <CR><LF>+ok=<Sta><CR><LF> | |
| Set | AT+CLIENTRST=<Sta><CR> | |
| Return | <CR><LF>+ok<CR><LF> | |

5.32. AT+INDEXEN

| Parameter | Description | Range |
|---------------|---------------------------|--------|
| <Sta> | Index function | On/off |
| Format | | |
| Query | AT+INDEXEN<CR> | |
| Return | <CR><LF>+ok=<Sta><CR><LF> | |
| Set | AT+INDEXEN=<Sta><CR> | |
| Return | <CR><LF>+ok<CR><LF> | |

5.33. AT+SOCKSL

| Parameter | Description | Range |
|---------------|----------------------------|--------|
| <Sta> | Non-persistence connection | On/off |
| Format | | |
| Query | AT+SOCKSL<CR> | |
| Return | <CR><LF>+ok=<Sta><CR><LF> | |
| Set | AT+SOCKSL=<Sta><CR> | |
| Return | <CR><LF>+ok<CR><LF> | |

5.34. AT+SHORTO

| Parameter | Description | Range |
|---------------|---------------------------------|--------|
| <Time> | Non-persistence connection time | 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> | |

5.35. AT+UARTCLBUF

| Parameter | Description | Range |
|---------------|-----------------------------|--------|
| <Sta> | Clear the serial port cache | On/off |
| Format | | |
| Query | AT+UARTCLBUF<CR> | |
| Return | <CR><LF>+ok=<Sta><CR><LF> | |
| Set | AT+UARTCLBUF=<Sta><CR> | |
| Return | <CR><LF>+ok<CR><LF> | |

5.36. AT+RSTIM

| Parameter | Description | Range |
|-----------|----------------------------|--------------|
| <Time> | Timeout restart time | 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> | |

5.37. AT+MAXSK

| Parameter | Description | Range |
|-----------|------------------------------|-------|
| <Num> | Maximum number of the client | 1~8 |
| Format | | |
| Query | AT+MAXSK<CR> | |
| Return | <CR><LF>+ok=<Num><CR><LF> | |
| Set | AT+MAXSK=<Num><CR> | |
| Return | <CR><LF>+ok<CR><LF> | |

5.38. AT+MID

| Parameter | Description | Range |
|-----------|----------------------------|--|
| <name> | Module name | Less than 15 bytes and can not be none |
| Format | | |
| Query | AT+MID<CR> | |
| Return | <CR><LF>+ok=<name><CR><LF> | |
| Set | AT+MID=<name><CR> | |
| Return | <CR><LF>+ok<CR><LF> | |

5.39. AT+H

| Parameter | Description |
|-----------|----------------------------|
| <Help> | Command help information |
| Format | |
| Query | AT+H<CR> |
| Return | <CR><LF>+ok=<Help><CR><LF> |

6. Contact

Company: Jinan USR IOT Technology Limited

Address: Floor 11, Building No.1, No.1166, Xinluo Street, Gaoxin District, Jinan city, Shandong province, 250101
China

Tel: 86-531-88826739

Web: www.usriot.com

Support: h.usriot.com

Email: sales@usr.cn

7. Disclaimer

This document provides the information of USR-W610 products, it hasn't been granted any intellectual property license by forbidding speak or other ways either explicitly or implicitly. Except the duty declared in sales terms and conditions, we don't take any other responsibilities. We don't warrant the products sales and use explicitly or implicitly, including particular purpose merchant-ability and marketability, the tort liability of any other patent right, copyright, intellectual property right. We may modify specification and description at any time without prior notice.

8. Update History