
wifi Barcode Scanner User Manual

Release v1.1.1

2026-09-02

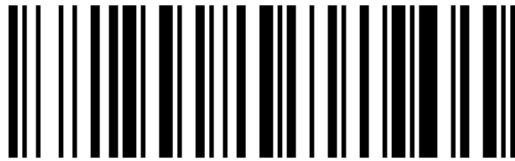
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1 System Settings

1.1 Read Firmware Version



Read Firmware Version

1.2 Restore Factory Defaults

Note

If Write Custom Defaults has been performed, Restore Defaults restores those custom defaults; otherwise it restores factory defaults.

Important

Set Factory Defaults clears all custom defaults and restores factory defaults.



Restore custom defaults



Write custom default values



Set factory defaults

1.3 Work Mode

Note

During the data upload process, if you scan the “data upload” command again, the current upload will be canceled or stopped.

Note

In wireless transmission mode, if automatic storage is turned on, barcodes that fail to be transmitted will be automatically saved, and the stored data can be read through “data upload” .



* Normal mode



storage mode



Upload storage data



Read the total number of stored barcodes



Clear storage data after uploading



Read storage space usage



Clear stored barcode



* Autosave mode off



Automatic storage mode is on

2 Power management

2.1 Read sleep time



Read sleep time

2.2 Set sleep time



Hibernate now



Sleep after 1 minute



Sleep after 3 minutes (default)



Sleep after 5 minutes



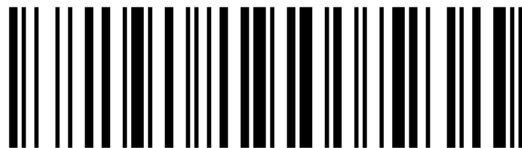
Sleep after 10 minutes



Sleep after 30 minutes



Sleep after 1 hour



Sleep after 2 hours



never sleep

2.3 Get Barcode Reader battery level



Get battery level

3 Feedback Indicators

3.1 Buzzer control



Mute



* high volume



medium volume



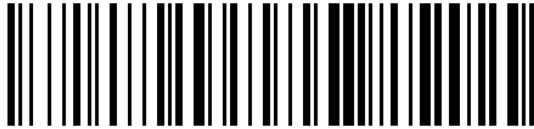
low volume



* high pitch



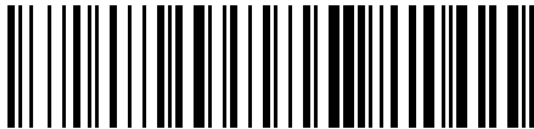
low pitch



* SDK voice response off



SDK voice response enabled



Base connection buzzer prompt switch

3.2 Vibration motor control

Note

The vibration motor works with a beep prompt, not all models support this feature.



Disable



Enable

3.3 Buzzer sound definition

Type	Sound	Description	Preview
Beep	Single tone (2 pitches)	Storage mode decode; power-off prompt.	Storage-mode scan storage-mode.m4a Power off shutdown.m4a
Beep	Single tone (3 pitches)	Power-on prompt; setting saved; upload complete.	Power on startup.m4a Setting successful wireless-setting.m4a
Beep	Short single tone	Successful decode.	Barcode decoded successfully one-beeps.m4a
Beep	30-second continuous short tone	2.4G pairing waits for the receiver; stops after pairing.	2.4G pairing pair2.4G.m4a
Alarm sound	Two tones (same pitch)	Low-battery alarm during decoding.	Low battery two-beeps.m4a
Alarm sound	Three tones (same pitch)	Inventory storage error or capacity exceeded.	Storage error or capacity alarm three-beeps.m4a
Alarm sound	Transmission Failure Beep	Alarm when barcode transmission fails.	No audio available
Alarm sound	Five tones (same pitch)	Boot failure caused by low battery.	Low-battery power-on failure five-beeps.m4a

3.4 Indicator definition

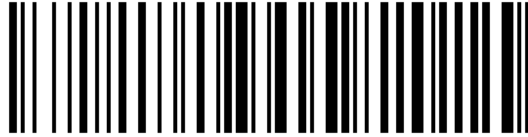
Indicator	Status
red light / green light	When charging, the red light is on and the green light is off; when fully charged, the red light is off and the green light is on.
blue light	Following the buzzer action, the buzzer lights up when it sounds and goes out when it does not sound; models that support Bluetooth mode are also used to indicate the Bluetooth connection status.

4 wired mode

Note

Only applicable to Barcode Readers that support wired transmission.

4.1 USB transfer method



* USB keyboard mode



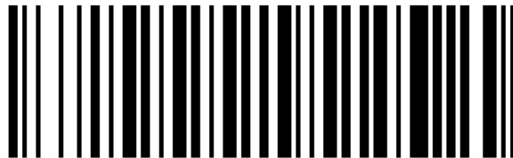
USB Virtual COM Port mode

Note

After the automatic interface selection is turned on, the device will automatically switch between wired and wireless; when plugging in the USB cable, the wired mode will be used first. When the USB cable is not plugged in or USB is unavailable, the Barcode Reader works in 2.4G mode. Some models may not support this feature.



* Wired/wireless automatic selection turns on



Wired/wireless automatic selection off

4.2 USB keyboard transfer speed

Note

This setting also affects the speed of RF and Bluetooth transmission of very long barcodes and stored data uploads.



* top speed



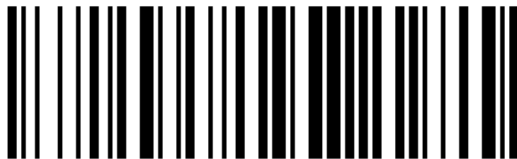
top speed



Medium speed



Medium speed



Read keyboard speed



Read keyboard speed

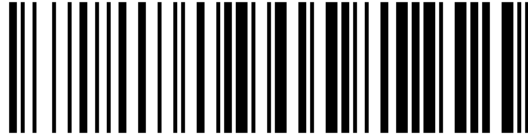
4.3 USB HID multi-key send settings

Note

The settings in this section are only applicable to Windows systems.



USB HID multi-key sending enabled



* USB HID multi-key sending off

5 Wi-Fi transmission mode

Note

Only applicable to Barcode Readers that support Wi-Fi transmission, such as DS2800.

5.1 Modify device ID

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
%IOTCLIID#<device-id>#
```

5.2 Data Upload Format

Original barcode content

Example

```
{"ID": "680870"}
```



Original barcode content

JSON format content

Example

```
{"id": "C143F123", "msg": "{\"ID\": \"680870\"}"}
```



JSON format content

JSON format + content escaping

Example

```
{"id": "C143F123", "msg": "{\\"ID\\":\\"680870\\"}"}
```



JSON format + content escaping

5.3 Data Receiving Format

Parameter name	Type	Description
ply	Int	Voice code
msg	String	Message content

Listing 1: Response example

```
1 { "ply": 2, "msg": "ABEF" }
```

Voice code

Voice code	Voice content
1	The buzzer sounds once
2	The buzzer sounds twice
3	The buzzer sounds three times

5.4 Data transfer protocol

Transfer data using TCP client

Note

Only applicable to Barcode Readers that support Wi-Fi transmission, such as DS2800.

Quick configuration

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
AT+SOCK=TCPC,<port>,<host>,<port>;AT+RAP=<ssid>[,<wifi-password>]
```

Note

When you use third-party software to build a TCP server, you can use this tool to generate configuration code.

Demo software

- Click the link below to download the demo software: [Netum Wi-Fi TCP Server](#)

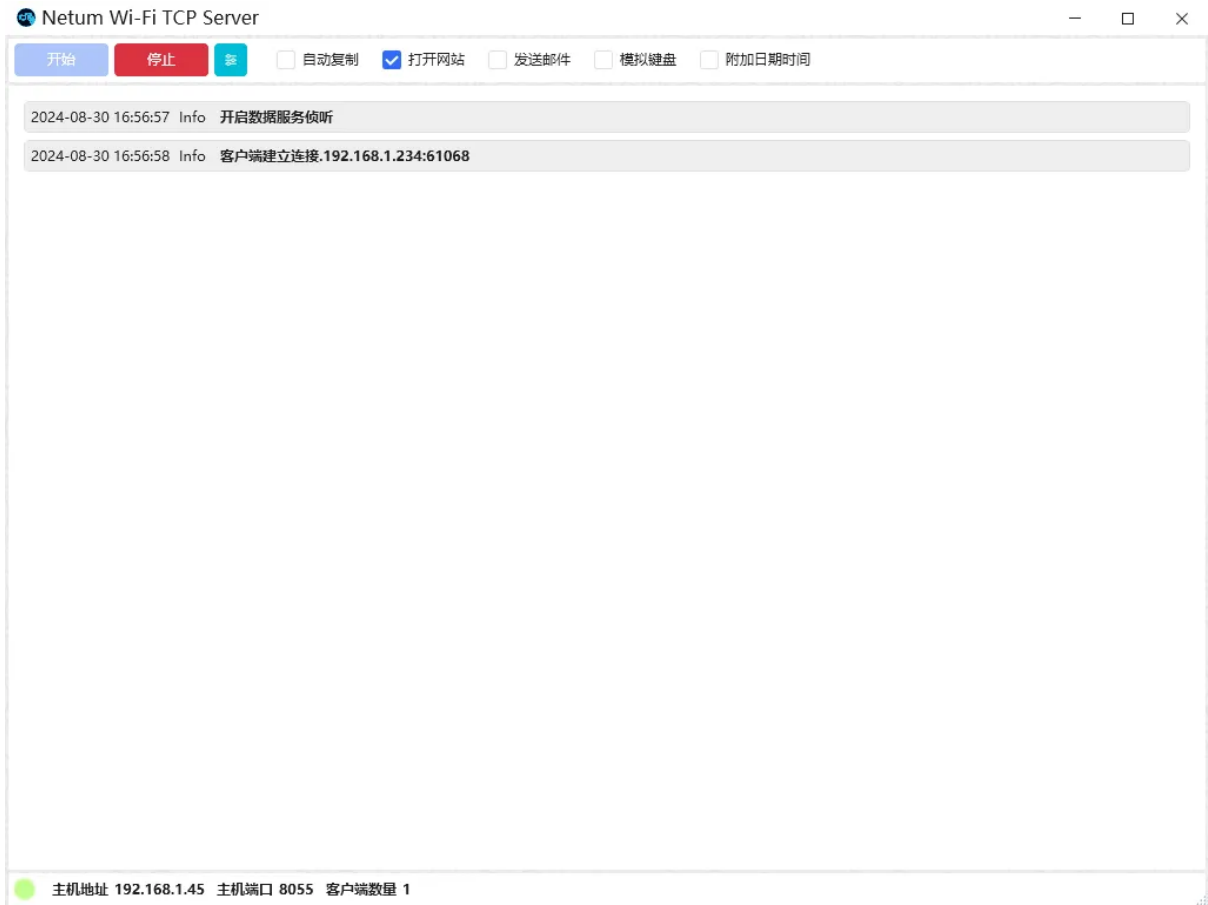
Connect

1. Download the demo software and extract it to a local directory.
2. Open the demo software, enter the Wi-Fi information and TCP server information that the Barcode Reader needs to connect to, and then use the Barcode Reader to scan the QR code below.



TCP server configuration QR code example

- 3. Click Start Service, or start the TCP service programmatically.
- 4. Wait for the Barcode Reader to actively connect to the TCP service provided by the software.



TCP server running example

Note

- Host address: The IP address of the computer where the TCP service is located.
- Host port: The port number that the TCP service listens on.

Transfer data using TCP server

Note

Only applicable to Barcode Readers that support Wi-Fi transmission, such as DS2800.

Quick configuration

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

AT+SOCK=TCPS,<port>,<ipv4-address>;AT+RAP=<ssid>[,<wifi-password>]

Note

Use this tool to generate configuration code when you use third-party software to build a TCP client.

Demo software

- Click the link below to download the demo software: [Netum Wi-Fi TCP Client](#)

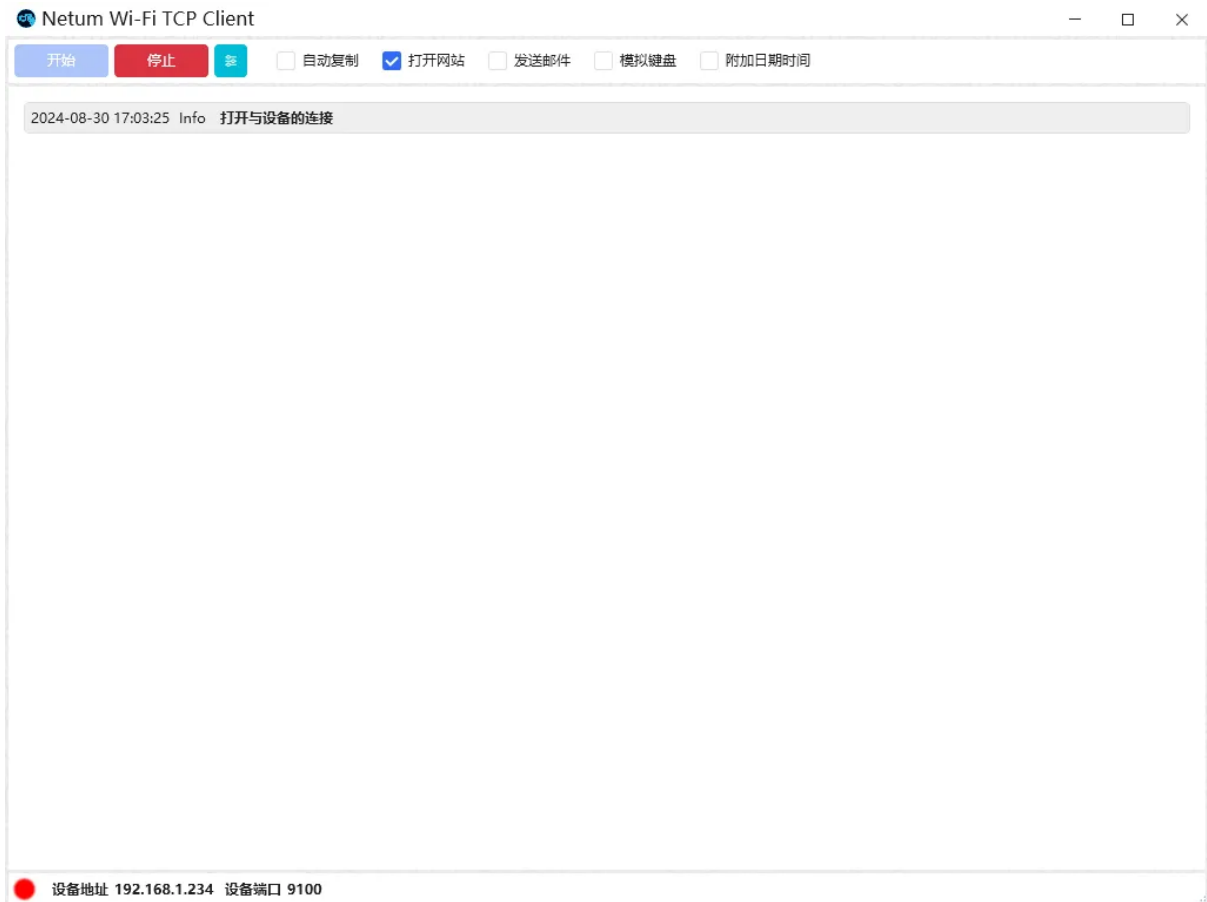
Connect

1. Download the demo software and extract it to a local directory.
2. Open the demo software, enter the Wi-Fi information that the Barcode Reader needs to connect to, the IP address of the Barcode Reader and the TCP server port, and then use the Barcode Reader to scan the QR code below.



TCP client configuration QR code example

3. Click the start button, or start the TCP client through the program to connect to the Barcode Reader.
4. After the software establishes a connection with the Barcode Reader, the indicator light on the Barcode Reader will stay on.



TCP client connection example

Note

- Device address: The IP address of the Barcode Reader in the LAN.
- Device port: TCP service port opened by the Barcode Reader.

Transfer data using MQTT protocol

Note

Only applicable to Barcode Readers that support Wi-Fi transmission, such as DS2800.

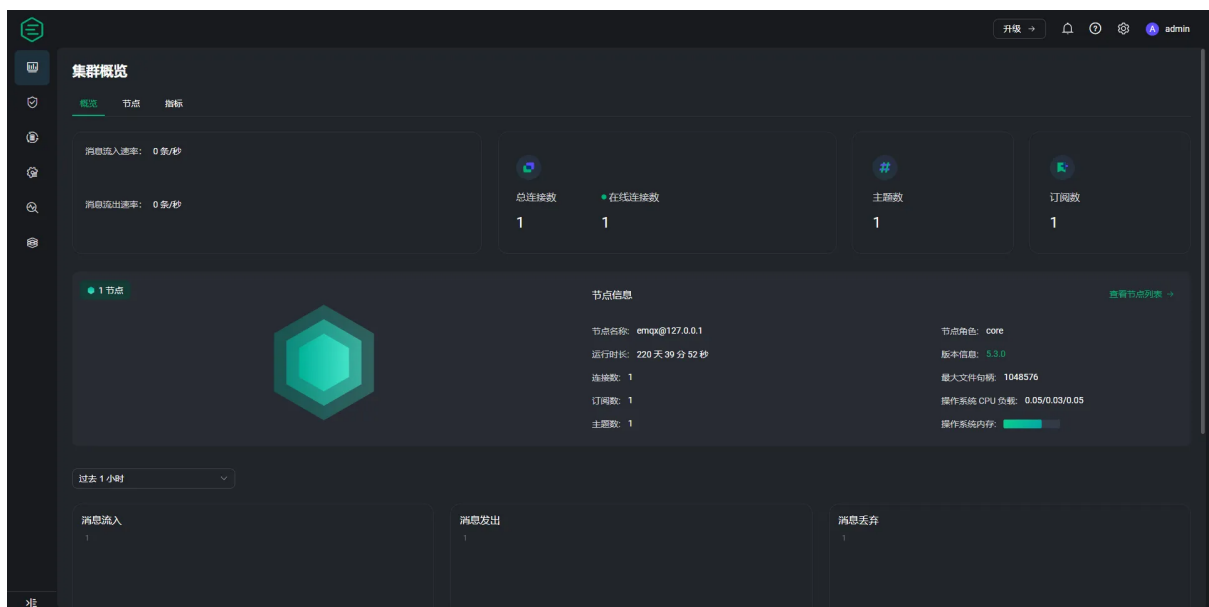
Set up the MQTT broker server

- Use a server to host an MQTT broker; barcode data uploaded by the Barcode Reader is forwarded through the server.

Demo software

EMQX open-source download: [EMQX](#)

Test service



MQTT Broker test service example

Note

Server connection information

- Host: mqtt.handy.pub
- Port: 1883
- Username: netum
- Password: netum@2022

For testing only. Do not use in production.

Configure Barcode Reader

Configure Wi-Fi and Broker

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
AT+URL=2,<broker>,<username>,<password>,<publish-topic>,<qos>;
```

```
AT+RAP=<ssid>[,<wifi-password>]
```

Note

- The Barcode Reader uses port 1883 by default to connect to the MQTT Broker.

- The default topic content for Barcode Reader subscriptions is `device ID`.

Modify MQTT connection port

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
AT+MQTTPORT=<port>
```

Modify Barcode Reader publishing topic

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
%IOTPUBTP#<publish-topic>#
```

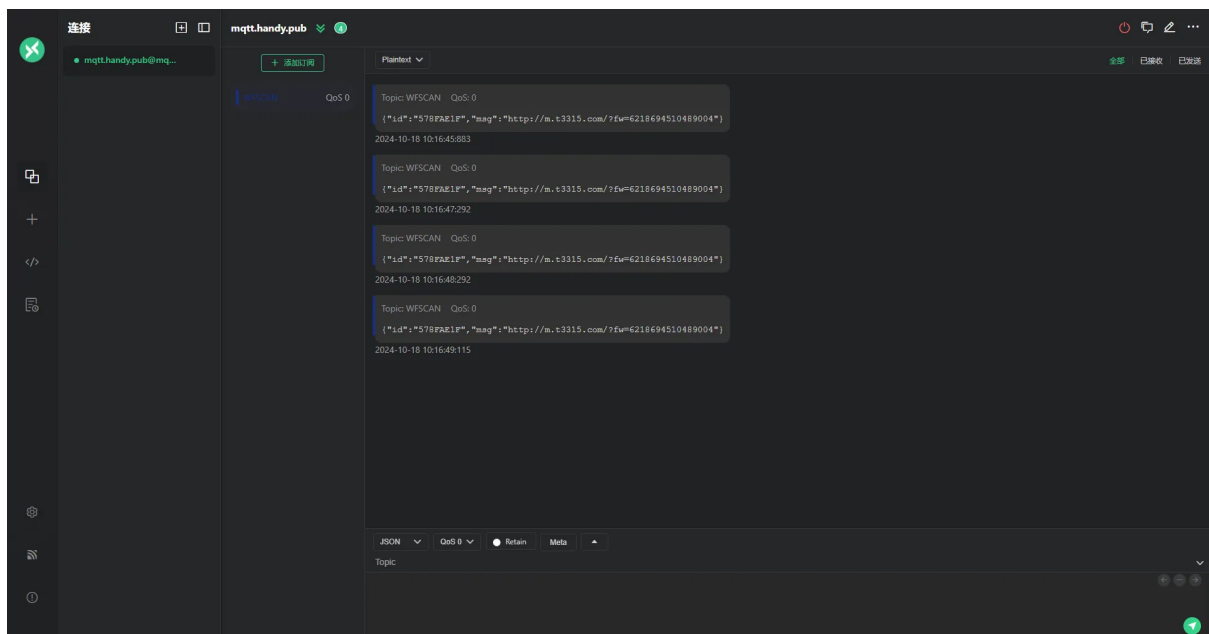
Modify Barcode Reader subscription topic

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
%IOTSUBTP#<subscribe-topic>#
```

Receive data

- Use MQTT client software [MQTTX](#) to connect to the Broker server and subscribe to the topic where the Barcode Reader publishes messages.



MQTTX subscription example

Development reference

- [MQTT client library](#)
- [MQTT Tutorial](#)

Transfer data using HTTP protocol

Note

Only applicable to Barcode Readers that support Wi-Fi transmission, such as DS2800.

Create a REST API

Brief description

- Barcode Reader data upload interface.

Request URL

- `https://httpbin.org/post`

Request mode

- POST

Request parameters

Parameter name	Required	Type	Description
ID	Yes	string	device ID
msg	Yes	string	Scan content

Listing 2: Request example

```
{ "id": "04B9023A", "msg": "1234567890" }
```

Return parameters

See *Data Receiving Format* for details.

Configure Barcode Reader

Set Content-Type of Barcode Reader request



Application/JSON

Set the data format sent by the Barcode Reader



JSON format content

Configure Wi-Fi and API URL addresses

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
AT+URL=<mode>,<host>,<path-and-query>;AT+RAP=<ssid>[,<wifi-password>]
```

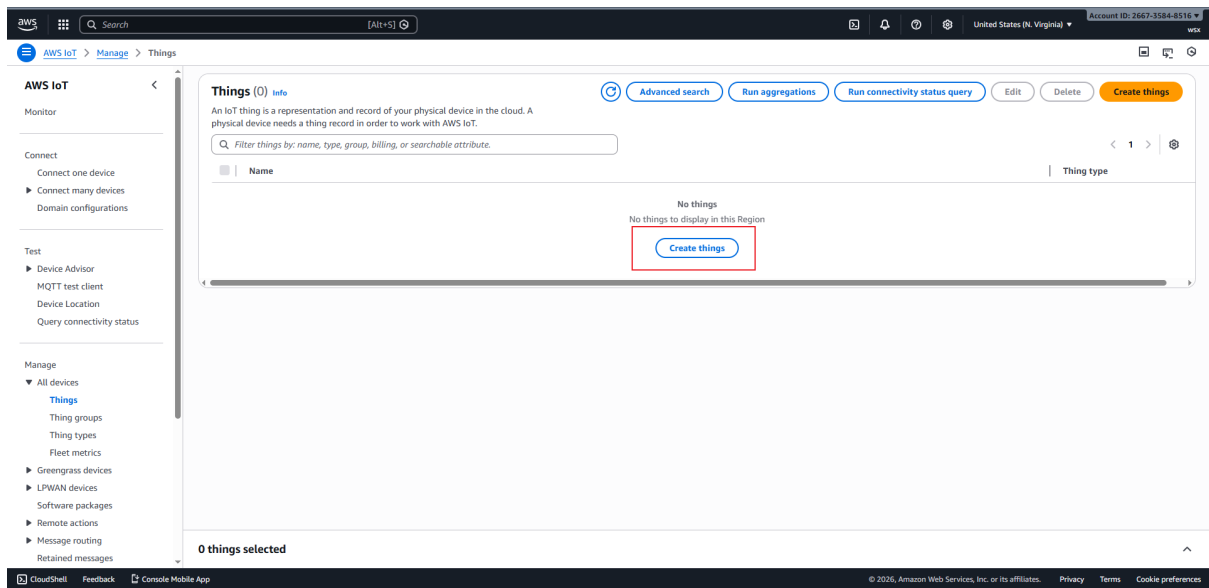
Transfer data to AWS IoT using the MQTTs protocol

Note

Only applicable to Barcode Readers that support Wi-Fi transmission, such as DS2800.

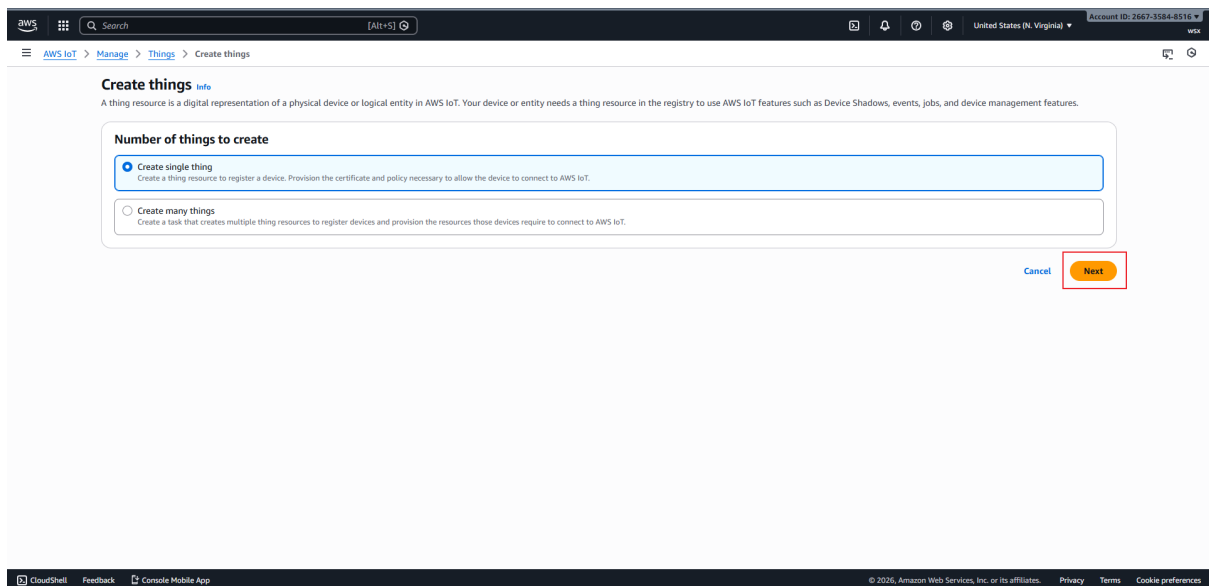
Register the device on the AWS IoT page and obtain the client certificate and private key

- Click [Things](#) to enter the page.



Things page

- Click **Create Things** to enter the device creation page.



Create Things page

- Click **Next** to enter the device property setting page.

Specify thing properties [Info](#)

A thing resource is a digital representation of a physical device or logical entity in AWS IoT. Your device or entity needs a thing resource in the registry to use AWS IoT features such as Device Shadows, events, jobs, and device management features.

Thing properties [Info](#)

Thing name

Enter a unique name containing only: letters, numbers, hyphens, colons, or underscores. A thing name can't contain any spaces.

Additional configurations

You can use these configurations to add detail that can help you to organize, manage, and search your things.

- ▶ **Thing type** - optional
- ▶ **Searchable thing attributes** - optional
- ▶ **Thing groups** - optional
- ▶ **Billing group** - optional
- ▶ **Packages and versions** - optional

Device Shadow [Info](#)

Device Shadows allow connected devices to sync states with AWS. You can also get, update, or delete the state information of this thing's shadow using either HTTPs or MQTT topics.

☒ **No shadow**

☐ **Named shadow**

Create multiple shadows with different names to manage access to properties, and logically group your devices properties.

☐ **Unnamed shadow (classic)**

A thing can have only one unnamed shadow.

Specify things properties

- After entering the Thing name, click **Next** to enter the device certificate configuration page.

Configure device certificate - optional [Info](#)

A device requires a certificate to connect to AWS IoT. You can choose how to register a certificate for your device now, or you can create and register a certificate for your device later. Your device won't be able to connect to AWS IoT until it has an active certificate with an appropriate policy.

Device certificate

☒ **Auto-generate a new certificate (recommended)**

Generate a certificate, public key, and private key using AWS IoT's certificate authority.

☐ **Use my certificate**

Use a certificate signed by your own certificate authority.

☐ **Upload CSR**

Register your CA and use your own certificates on one or many devices.

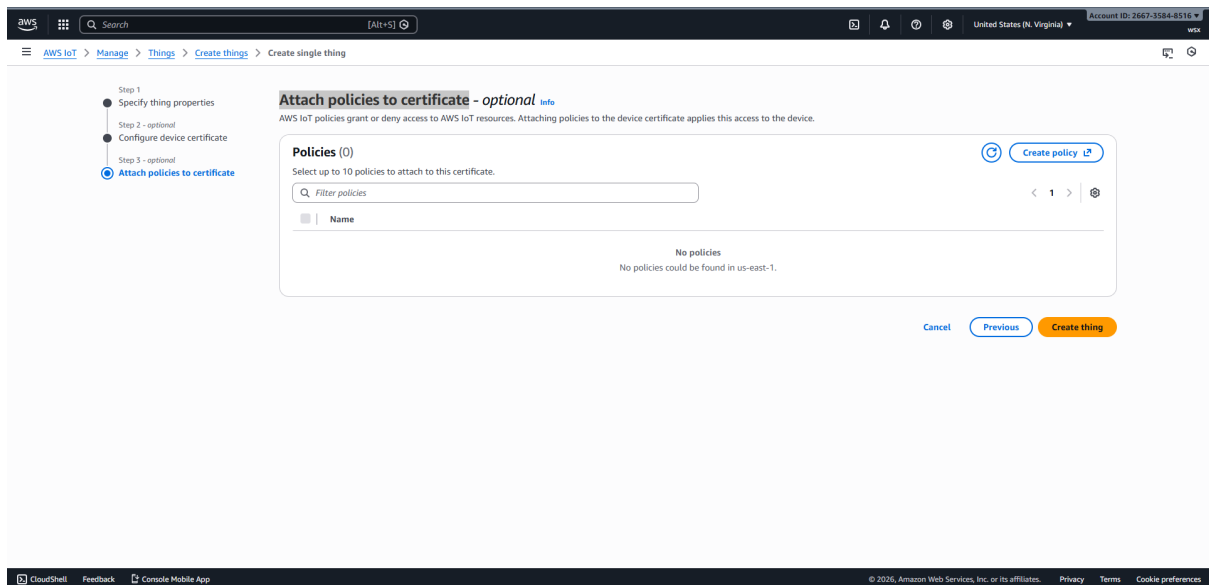
☐ **Skip creating a certificate at this time**

You can create a certificate for this thing and attach a policy to the certificate at a later time.

[Cancel](#) [Previous](#) [Next](#)

Configure device certificate

- Click **Next** to enter the certificate policy binding page.



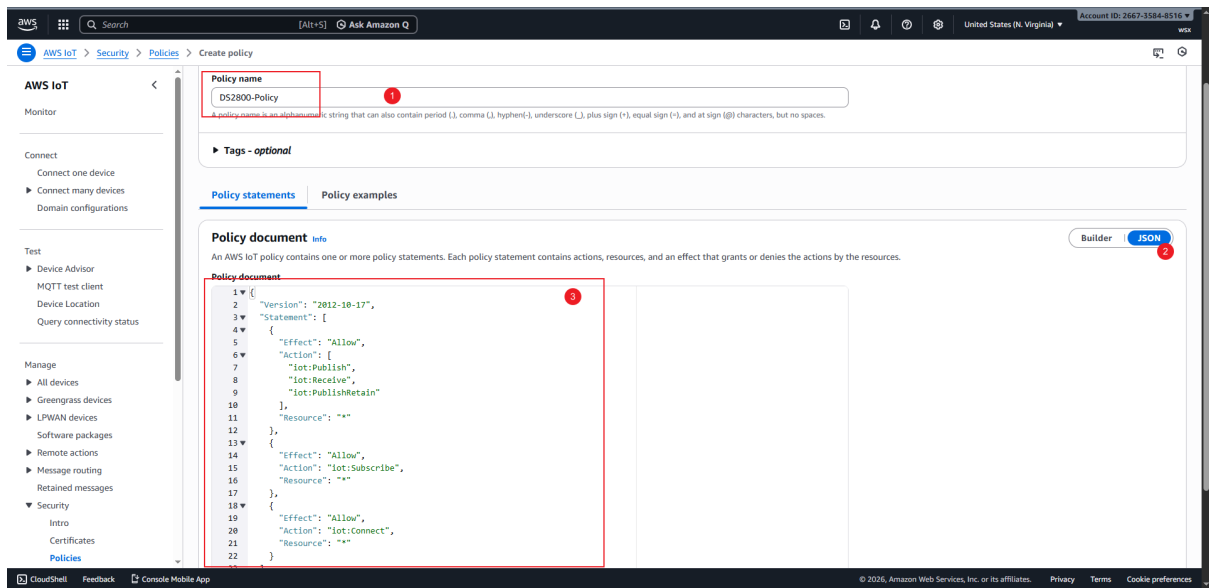
Attach policies to certificate

- Click `Create policy` to enter the policy creation page, enter the policy name, copy the following content into the JSON input box, and then click `Create` to complete creation.

Listing 3: Policy document

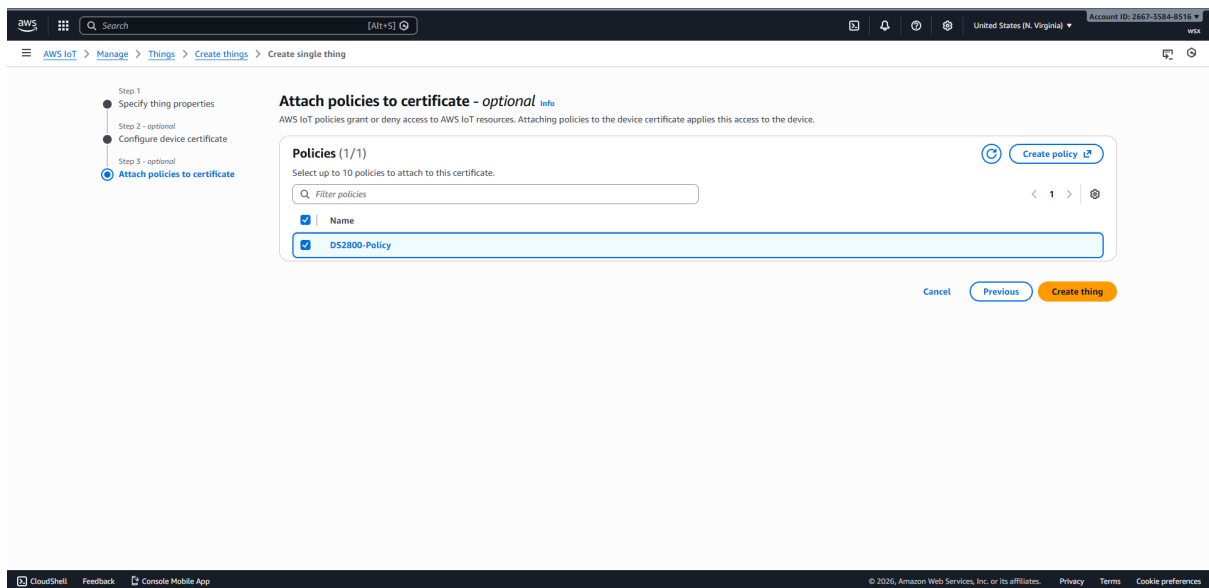
```

1 {
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Effect": "Allow",
6       "Action": [
7         "iot:Publish",
8         "iot:Receive",
9         "iot:PublishRetain"
10      ],
11      "Resource": "*"
12    },
13    {
14      "Effect": "Allow",
15      "Action": "iot:Subscribe",
16      "Resource": "*"
17    },
18    {
19      "Effect": "Allow",
20      "Action": "iot:Connect",
21      "Resource": "*"
22    }
23  ]
24 }
```



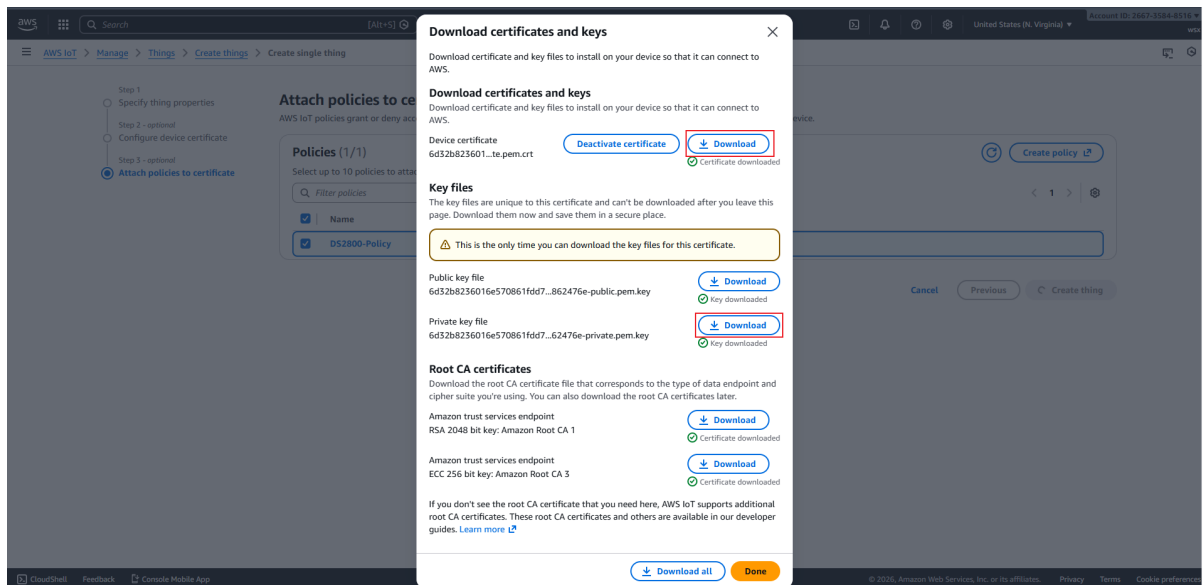
Create policy page

- Return to the **Attach policies to certificate** page, check the newly created policy, and click **Create Things** to complete device creation.



Bind policy and create Thing

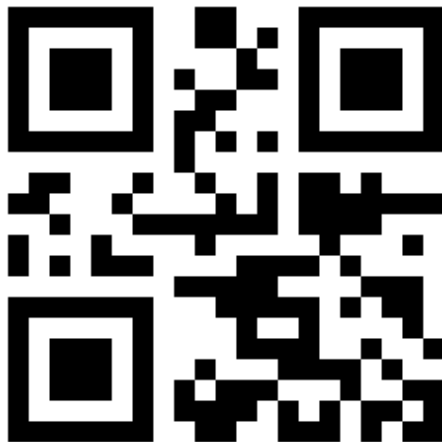
- Download the certificate and private key first, then click **Done** to complete the device creation process.



Download certificate and private key

Configure Barcode Reader

Set MQTT mode



MQTTs mode

Set MQTT port to 8883



MQTT port 8883

Set client certificate

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
AT+CLICERT=<PEM-certificate>
```

Warning

Display the certificate QR code only on a trusted local device. Do not capture screenshots or send it through chat. Click Clear and close the page immediately after configuration.

Set private key

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
AT+CLIKEY=<PEM-private-key>
```

Warning

Display the private-key QR code only on a trusted local device. Do not capture screenshots or send it through chat. Click Clear and close the page immediately after configuration.

Configure Wi-Fi and Broker

Tip

After entering the corresponding Wi-Fi information and service address, the Barcode Reader will actively connect to AWS IoT. After the connection succeeds, the green indicator light on the Barcode

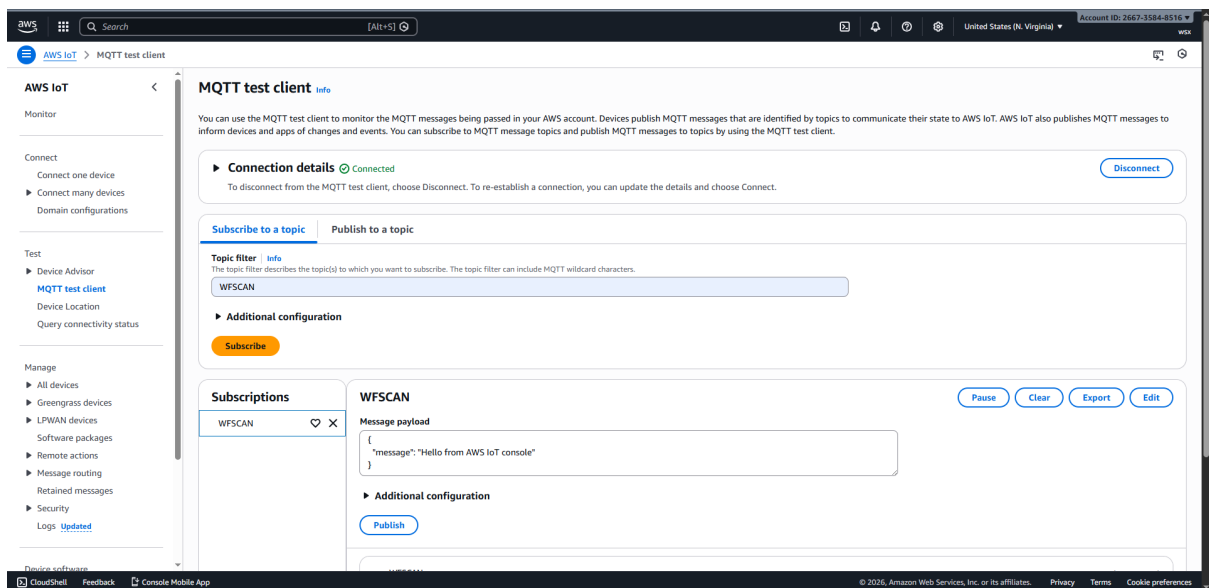
Reader will stay on.

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
AT+URL=2,<broker>,,, <publish-topic>,0;AT+RAP=<ssid>[, <wifi-password>]
```

MQTT test client

- Click [MQTT test client](#) to enter the page.
- After entering the topic to subscribe to and clicking [Subscribe](#), use the Barcode Reader to scan a barcode. You can then receive the data uploaded by the Barcode Reader.



MQTT test client page

5.5 Network configuration

Network configuration

Note

Only applicable to Barcode Readers that support Wi-Fi transmission, such as DS2800.

Dynamic IP address configuration

1. Restore Wi-Fi module default settings



Restore Wi-Fi module default settings

2. Set dynamic IP mode



Set dynamic IP mode

3. Restart the scanner



Restart the Barcode Reader

4. Configure transmission method

After configuring the network parameters, you can continue to configure the following transmission methods as needed:

1. *Transfer data using TCP client*
2. *Transfer data using TCP server*
3. *Transfer data using MQTT protocol*
4. *Transfer data using HTTP protocol*

Static IP address configuration

1. Restore Wi-Fi module default settings



Restore Wi-Fi module default settings

2. Set static IP mode



Set static IP mode

3. Restart the scanner



Restart the Barcode Reader

4. Set IP address

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
AT+SIP=<ipv4-address>
```

5. Set gateway

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
AT+GW=<ipv4-gateway>
```

6. Set subnet mask

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
AT+MASK=<ipv4-subnet-mask>
```

7. Configure transmission method

After configuring the network parameters, you can continue to configure the following transmission methods as needed:

1. *Transfer data using TCP client*
2. *Transfer data using TCP server*
3. *Transfer data using MQTT protocol*
4. *Transfer data using HTTP protocol*

6 Bluetooth Mode

Note

Only applicable to Barcode Readers that support Wi-Fi + Bluetooth transmission, such as DS2800.

- After scanning the “Bluetooth Mode” Parameter Barcode, press the button to start the device and switch to Bluetooth transmission.
- After enabling Bluetooth search on the host device and completing pairing, data can be transferred via Bluetooth.

- Common default Bluetooth names are `barcode_scanner` or `NETUM Bluetooth`.

Note

The meaning of the blue indicator light is as follows:

① The blue light flashes, indicating that it is not connected. ② The blue light is always on, indicating that it is connected.

6.1 Bluetooth HID



* Bluetooth HID

6.2 Bluetooth SPP



Bluetooth SPP

6.3 Bluetooth BLE



Bluetooth BLE

Note

Bluetooth SPP and Bluetooth BLE are mainly used for software integration; if you need to search and pair directly in the system Bluetooth, please use *Bluetooth HID*.

6.4 Clear pairing information



Clear pairing information

Note

To re-pair with a new device, or if pairing fails, you can scan the Parameter Barcode and pair again.

6.5 iOS pop up/hide keyboard



iOS pop up/hide keyboard

Note

You can also press the scan button twice in succession to pop up or hide the keyboard without scanning the Parameter Barcode. This function only supports Bluetooth pairing scenarios under iOS systems.

6.6 Bluetooth keyboard transmission speed



Read Bluetooth keyboard transmission speed

High speed



High speed

Medium speed



Medium speed

Low speed



Low speed

6.7 Change Bluetooth Name

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
AT+NAME=<bluetooth-name>
```

7 Keyboard Settings

7.1 HID Keyboard General Setting

General HID Settings

Note

The general HID settings in this section apply to USB Keyboard, RF 2.4G Keyboard, and Bluetooth HID Keyboard modes.

Ctrl key combination settings



* Combine-Key Off



Ctrl+ Key Config1



Alt+ Key Config2



Normal-Key Config3



Ctrl+ Key Config4

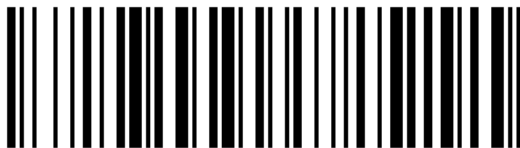


Alt+ Key Config5

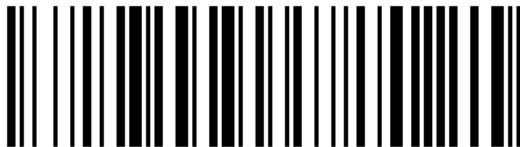
Note

only for ASCII <0x20 chars, Alt+ key only for Windows system.

Case settings



normal



Swap case



all caps



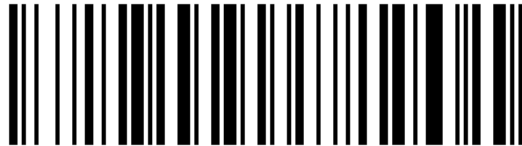
all lowercase

Case conversion does not apply when the keyboard layout is set to ALT or TH.

Num Lock Settings



Disable Num Lock



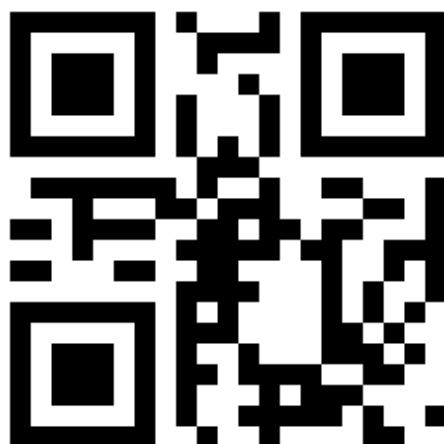
Num Lock on

*When the receiving device is a mobile phone, you need to keep the Num Lock off setting, otherwise the numbers will not be displayed.

Enter character set settings

Note

Applicable only to certain mod' s of 2D Barcode Readers, this setting matches the 2D module' s output character set.



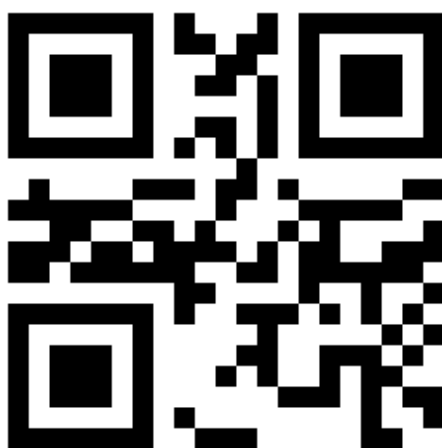
Read the current character set settings



Auto



GBK / BIG5 / HANGUL / SJIS



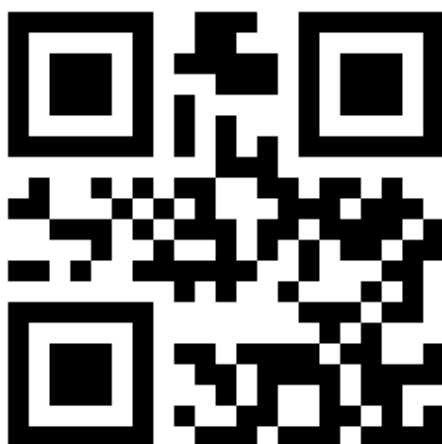
ISO/IEC 8859



UTF8 (Word)



UTF8 (Txt)



Normal mode

Note:

model	Applicable scenarios	Scan Engine Output Character Set	limit
Auto	Automatically select the input character set as UTF8 or ISO/IEC 8859; Word or Txt output is based on the last UTF8 setting.	primitive type	none
GBK	Windows Notepad, Excel Chinese input.	GBK (GB2312) or original type	Applies to Windows systems only.
UTF8 (Word)	Word, QQ Chinese input.	UTF8 or primitive type	Applies to Windows systems only.
ISO/IEC 8859	European single-byte special characters ($\geq C0H$), applicable to FR, GE, TR, PT, ES, CS, IT, UK, HU, SK.	primitive type	Languages not listed need to be added by customization.
UTF8 (Txt)	To input special characters in Windows Notepad, you need to install the Unicode plug-in.	UTF8 or primitive type	Applies to Windows systems only.
Normal	Multi-language special characters, suitable for characters on FR, GE, TR, PT, ES, CS, IT, UK, HU, SK keyboards.	UTF8 or primitive type	Languages not listed need to be added by customization.

Receiving device selection

Note

This section configures how different host devices enter ASCII characters (0x20 to 0x7F). Use it together with [Keyboard Layout Settings](#).



Read the current receiving device settings



Windows device



iPhone/iPad/Mac devices



Android device

*IOS/MAC devices are currently valid: FR, DE, TR, PT, ES, CS, IT, UK, HU, SK. Please refer to the document “MAC iphone ipad keyboard layout for barcode scanner.docx”

*It is recommended to install Google Gboard input method uniformly on Android devices. Please refer to the document “Android device keyboard layout for barcode scanner.docx”

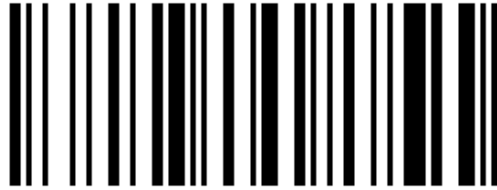
7.2 Keyboard language settings

See also

Keyboard language settings have been split into a separate page: [Keyboard Language Settings](#).

8 Keyboard Language

8.1 Read the current keyboard layout



Read the current keyboard layout

L1 *ENUSA EN key



* US English keyboard

L2 FR France French key



French French keyboard

L3 DE Germany key



german german keyboard

L4 IT Italy Italy key



Italian keyboard

L5 PT Portugal Portugal key



Portuguese keyboard

L6 ES Spain Spain key



spanish keyboard

L7 TR Turkey Turkey key



Turkish Q keyboard



Turkish F keyboard

L8 ENUK UK key



British English keyboard

L9 CS Czech Czech key



Czech keyboard



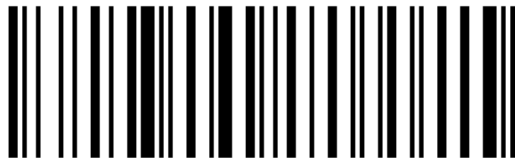
Czech standard keyboard

L10 HU Hungary Hungary key



Hungarian keyboard

L11 FR Belgium (French) Belgium FR Key



Belgian French keyboard

L12 PT Brazil (Portuguese) Brazil PT Key



Brazilian Portuguese keyboard

L13 FR Canadian French (Traditional) Canadian FR Key



Canadian French (traditional) keyboard

L14 HRCroatia Key



Croatian keyboard

L15 SK Slovak Key



Slovak QWERTY keyboard



Slovak keyboard

L16 DA Denmark Denmark Key



Danish keyboard

L17 FI Finland Key



Finnish keyboard

L18 ES Latin America (Spanish) Latin-America ES Key



Latin American Spanish keyboard

L19 NL Netherlands Netherlands Key



Dutch keyboard

L20 NO Norway Norway Key



Norwegian keyboard

L21 PL Poland Poland Key



Polish keyboard

L22 SR Serbia (Latin) Serbia Key



Serbian Latin keyboard

L23 SL Slovenia Key



Slovenian keyboard

L24 SV Sweden Sweden Key



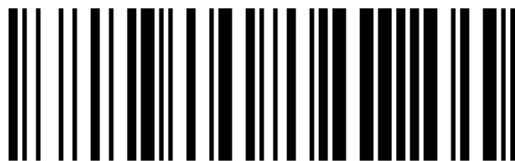
Swedish keyboard

L25 DE Switzerland (German) Swiss DE Key



Swiss German keyboard

L26 JP Japanese Japanese Key



Japanese keyboard

L27 TH Thai Thailand Key

Note

When using a Thai keyboard, set the Scan Engine output to TH as well.



Thai keyboard

See also

Reference file: RF2.4G, Bluetooth Settings_Chinese, Thai, Korean.docx.

L28 ALT International Keyboard ALT Global Key

Note

The ALT international keyboard layout is only available on Windows systems. It is not affected by the host keyboard layout, but it reduces transmission speed.



ALT international keyboard

L29 ALT Single Byte Special Keyboard ALT Single Byte Special Key



ALT single-byte special character keyboard

Note

Languages not listed in this section need to be customized to be supported.

9 Data Editing

9.1 Standard Data Editing Settings

This section describes how to configure common output rules such as prefixes, suffixes, and hidden characters by scanning Parameter Barcodes.

Prefix/Suffix and Hidden Character Settings

You can add up to 10 prefixes and/or 10 suffixes to the output data. To configure them, scan the two-digit hexadecimal Numeric Barcodes that correspond to the required ASCII value (that is, two barcodes per character).

See also

For character values, please refer to *ASCII Function Key Character Reference Table* and *ASCII Character Reference Table*; for parameters that require input of numerical values, please scan *Numeric Barcode*; for specific procedures, see *Add a Prefix or Suffix*.

Can be set to hide the first, middle or last characters of the barcode. After scanning the corresponding hidden Parameter Barcode, scan the two-digit hexadecimal Numeric Barcode corresponding to the length of the characters to be hidden (00~FF, for example, scan 0 and 4 in sequence when hiding 4 characters).

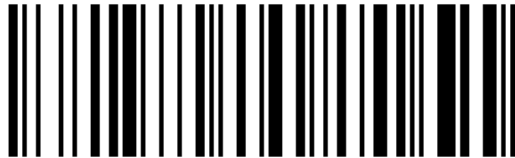
See also

See *Steps to Hide the First/Middle/Tail Characters of a Barcode* for the hidden character process.

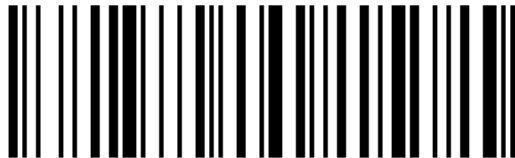
Operation Code



Add Prefix



Add Suffix



Clear all prefixes



Clear all suffixes



Hide Leading Characters



Hide Barcode Middle Start Position



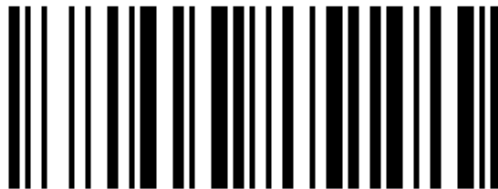
Hide Middle Section Length



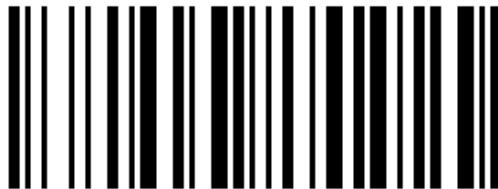
Hide Trailing Characters

Numeric Barcode

For parameters that require a numeric value, scan the corresponding Numeric Barcodes.



Numeric Barcode 0



Numeric Barcode 1



Numeric Barcode 2



Numeric Barcode 3



Numeric Barcode 4



Numeric Barcode 5



Numeric Barcode 6



Numeric Barcode 7



Numeric Barcode 8



Numeric Barcode 9



Numeric Barcode A



Numeric Barcode B



Numeric Barcode C



Numeric Barcode D



Numeric Barcode E



Numeric Barcode F

Output Format Settings

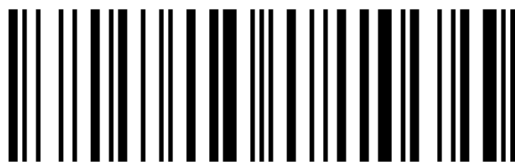
To change the output data format, scan the corresponding Parameter Barcode below.



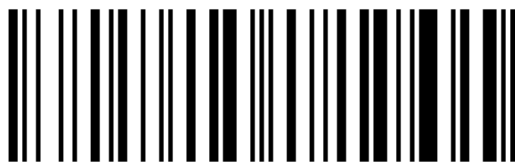
Default Output Format



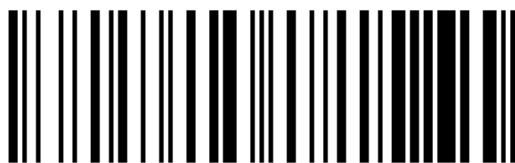
Allow Suffix Output



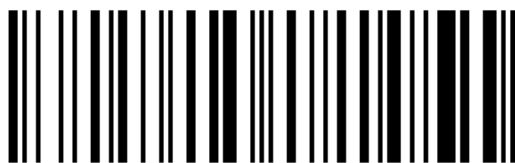
Allow Prefix Output



Allow Hiding Leading Data



Allow Hiding Middle Data



Allow Hiding Trailing Data

Procedure Examples

Add a Prefix or Suffix

1. If prefix and suffix output has not been enabled, please scan the corresponding Output Format Parameter Barcode first.
2. New characters are appended to the existing Prefix/Suffix. To replace the current Prefix/Suffix, first scan “Clear All Prefixes/Suffixes” , then configure the new values.
3. Scan the “Add Prefix” or “Add Suffix” Parameter Barcode.
4. Determines the hexadecimal value of the prefix or suffix to be entered based on *ASCII Function Key Character Reference Table* or *ASCII Character Reference Table*.
5. Scan the corresponding two-digit hexadecimal Numeric Barcode.
6. To continue adding characters, repeat steps 4 and 5.

Example

If you need to add `Ctrl+A` as a prefix, scan “Add Prefix” “9” “7” “4” “1” in sequence.

Example

If you need to add `Ctrl+Alt+A` as a suffix, scan “Add suffix” “9” “7” “9” “9” “4” “1” in sequence.

Steps to Hide the First/Middle/Tail Characters of a Barcode

1. Scan the Parameter Barcode for the barcode header, middle start position, middle length, or trailing characters.
2. Determine the hexadecimal value corresponding to the character length to be hidden (for example, hide 4 characters scan 0, 4; hide 12 characters scan 0, C).
3. Scan the corresponding two-digit hexadecimal Numeric Barcode.
4. Enable or disable the hidden character function through the Output Format Parameter Barcode.

9.2 Extended Data Editing Settings

This section lets you generate data editing Parameter Barcodes from complete commands in one step. It is intended for batch configuration, remote serial-command delivery, or character replacement.

Online One-Code Setup Generator

Note

The online generator is shown only in the HTML manual. After generating a Parameter Barcode, scan the generated barcode to complete the setting, or send the command by serial command using the format below.

Add Prefix

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
$DATA#20<length-hex><content>#
```

Add Suffix

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
$DATA#10<length-hex><content>#
```

Hide Leading Barcode Characters

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
$DATA#50<length-hex>#
```

Hide Middle Barcode Characters

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
$DATA#40<position-hex><length-hex>#
```

Hide Trailing Barcode Characters

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
$DATA#30<length-hex>#
```

Character Replacement

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

```
$DATA#70<source-length-hex><source><target-length-hex><target>#
```

One-Code Setup Command Format

Edit format:

```
$DATA#nc11xx#
```

n

1 suffix; 2 prefix; 3 hides the tail content of the barcode; 4 hides the middle content of the barcode; 5 hides the first content of the barcode; 7 replaces characters.

c

Code ID currently supports only 0, which indicates all symbologies.

11

Length as a hexadecimal value: Prefix/Suffix 01~0A, hidden characters 01~FF, replacement data 01~05.

xx

ASCII value. Hexadecimal can be represented by \x plus two characters, and the character range is 0~9, A~F.

Table 1: One-Code Setup Examples

Command	Description
\$DATA#1005abcd\x03#	Add 0x05 suffixes: abcd + 0x03.
\$DATA#200ANETUM12345#	Add 0x0A prefix NETUM12345.
\$DATA#3008#	Hide the last 0x08 characters of the barcode.
\$DATA#40050A#	Hides the 0x0A characters after the 0x05 character in the barcode.
\$DATA#5011#	Hide barcode header 0x11 bytes.
\$DATA#7001\x1D02GS#	Replace GS (0x1D) characters with GS.
\$DATA#7002NT01Z#	Replace NT with Z.

Character replacement operation

Format: \$DATA#70 + replaced character length + replaced characters + replacement data length + replacement data #

The sum of the lengths of the replaced characters and the replacement characters is <= 6, supporting 1~6 characters being replaced by 5~0 characters.



Read replacement settings



Clear replacement settings

Example

\$DATA#7001\x1D02GS# means replacing the non-displayable character GS (0x1D) with GS for display.



Character replacement operation: GS to text GS

i Example

\$DATA#7001\x0A01\x0D# means replacing LF (0x0A) with CR (0x0D).



Character replacement operation: LF to CR

i Example

\$DATA#7006ABCDEF00# means replacing the string ABCDEF with an empty string, that is, not displaying it.

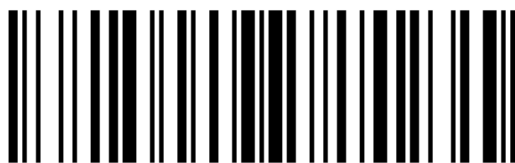
9.3 Terminator Settings

i Note

This terminator is independent of the scan engine suffix and wireless Prefix/Suffix, which facilitates quick setting when the scan engine has no suffix.



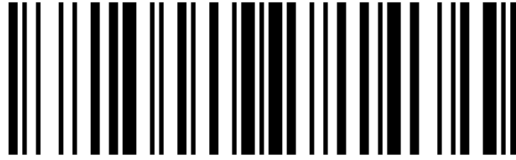
None (Default)



Carriage Return CR



Tab TAB



Carriage Return + Line Feed CRLF



Line Feed LF

9.4 GS1 AI field bracket settings

Note

Only some AI fields are applicable and require special version support.



Raw Format (Default)



Add Parentheses



Add brackets and separate with CR



Add brackets and separate them with TAB

10 Scan Mode

10.1 Barcode Decode Mode



Key scan mode (default)



Continuous scan mode

Note

Continuous Scan Mode is suitable for high-volume scanning workflows. Press the Trigger button once to start or stop scanning.



Key pulse scan mode

Note

Scanning starts when a key-level change is detected and maintained for about 30 ms. Scanning stops when another key-level change is detected, or when a decode succeeds or times out.



Host trigger mode (only applicable to some customized models)

Note

Host trigger mode is only applicable to some customized models.



Batch scanning mode (only applicable to some customized models)

Decode Timeout

This parameter sets the maximum time allowed for decoding during a scan attempt. Enter a four-digit value in milliseconds. Default: 3000 ms; range: 0500-9999 ms.



3 seconds (default)



6 seconds

Scan Interval

This parameter sets the interval between reads in Continuous Mode. Enter a four-digit value in milliseconds. Default: 0500 ms; range: 0100-9999 ms.



0.5 seconds (default)



1 second

11 RTC clock settings

Note

Only available for some Barcode Readers that support RTC.

11.1 Output format

Note

The timestamp can be corrected by scanning the Parameter Barcode. The RTC correction function of the electronic manual already includes the time zone, and the query is the local time; the time can also be synchronized through the Bluetooth SDK.

Example

Timestamp correction command format example: %RTCTIME#21/12/24,01:58:06+32.

If the interactive HTML tool is unavailable, replace the placeholders as described in this section and verify the command.

%RTCTIME#YY/MM/DD, hh:mm:ss<quarter-hour-timezone>#



Disable Timestamp



Turn on timestamp (suffix)



Turn on timestamp (prefix)

11.2 delimiter

The barcode and time are separated by Tab by default. If you need to modify it, you can edit the following command to generate the Parameter Barcode:

```
%RTCSTAMP#Sx
```

x

ASCII value. Hexadecimal can be represented by \x plus two characters, and the character range is 0~9, A~F.



Tab separated (default)



RS separated



semicolon separated

12 Appendix

12.1 Character Reference Table

ASCII Function Key Character Reference Table

00H-0FH

HEX	CODE	*Config0	Config3	Con- fig1	Con- fig4	Config2 Win- dows	Config5 Win- dows
00H	NUL	NUL	NUL	Ctrl+@	Ctrl+@	ALT+000	ALT+000
01H	SOH	NUL	NUL	Ctrl+A	Ctrl+A	ALT+001	ALT+001
02H	STX	NUL	NUL	Ctrl+B	Ctrl+B	ALT+002	ALT+002
03H	ETX	NUL	NUL	Ctrl+C	Ctrl+C	ALT+003	ALT+003
04H	EOT	NUL	NUL	Ctrl+D	Ctrl+D	ALT+004	ALT+004
05H	ENQ	NUL	NUL	Ctrl+E	Ctrl+E	ALT+005	ALT+005
06H	ACK	NUL	NUL	Ctrl+F	Ctrl+F	ALT+006	ALT+006
07H	BEL	NUL	NUL	Ctrl+G	Ctrl+G	ALT+007	ALT+007
08H	BS	Backspace	Backspace	Ctrl+H	Ctrl+H	ALT+008	ALT+008
09H	HT	TAB	TAB	TAB	Ctrl+I	ALT+009	ALT+009
0AH	LF	NUL	Enter	Ctrl+J	Ctrl+J	ALT+010	ALT+010
0BH	VT	TAB	TAB	Ctrl+K	Ctrl+K	ALT+011	ALT+011
0CH	FF	NUL	NUL	Ctrl+L	Ctrl+L	ALT+012	ALT+012
0DH	CR	Enter	Enter	Enter	Ctrl+M	Enter	ALT+013
0EH	SO	NUL	NUL	Ctrl+N	Ctrl+N	ALT+014	ALT+014
0FH	SI	NUL	NUL	Ctrl+O	Ctrl+O	ALT+015	ALT+015

10H-1FH

HEX	CODE	*Config0/3	Config1/4	Config2/5 Windows
10H	DLE	NUL	Ctrl+P	ALT+016
11H	DC1	NUL	Ctrl+Q	ALT+017
12H	DC2	NUL	Ctrl+R	ALT+018
13H	DC3	NUL	Ctrl+S	ALT+019
14H	DC4	NUL	Ctrl+T	ALT+020
15H	NAK	NUL	Ctrl+U	ALT+021
16H	SYN	NUL	Ctrl+V	ALT+022
17H	ETB	NUL	Ctrl+W	ALT+023
18H	CAN	NUL	Ctrl+X	ALT+024
19H	EM	NUL	Ctrl+Y	ALT+025
1AH	SUB	NUL	Ctrl+Z	ALT+026
1BH	ESC	ESC	Ctrl+[	ALT+027
1CH	FS	NUL	Ctrl+\	ALT+028
1DH	GS	NUL	Ctrl+]	ALT+029
1EH	RS	NUL	Ctrl+^	ALT+030
1FH	US	NUL	Ctrl+-	ALT+031

Note

On Mac systems, the Ctrl key corresponds to the Command key.

ASCII Character Reference Table**20H-5FH**

HEX	ASCII	HEX	ASCII	HEX	ASCII	HEX	ASCII
20H	Space	30H	0	40H	@	50H	P
21H	!	31H	1	41H	A	51H	Q
22H	"	32H	2	42H	B	52H	R
23H	#	33H	3	43H	C	53H	S
24H	\$	34H	4	44H	D	54H	T
25H	%	35H	5	45H	E	55H	U
26H	&	36H	6	46H	F	56H	V
27H	'	37H	7	47H	G	57H	W
28H	(	38H	8	48H	H	58H	X
29H	)	39H	9	49H	I	59H	Y
2AH	*	3AH	:	4AH	J	5AH	Z
2BH	+	3BH	;	4BH	K	5BH	[
2CH	,	3CH	<	4CH	L	5CH	\
2DH	-	3DH	=	4DH	M	5DH	]
2EH	.	3EH	>	4EH	N	5EH	^
2FH	/	3FH	?	4FH	O	5FH	_

60H-9DH

HEX	ASCII	HEX	ASCII	HEX	Fun Key	HEX	Fun Key
60H	`	70H	p	80H	F1	90H	End
61H	a	71H	q	81H	F2	91H	Page Down
62H	b	72H	r	82H	F3	92H	Right Arrow
63H	c	73H	s	83H	F4	93H	Left Arrow
64H	d	74H	t	84H	F5	94H	Down Arrow
65H	e	75H	u	85H	F6	95H	Up Arrow
66H	f	76H	v	86H	F7	96H	Print Screen
67H	g	77H	w	87H	F8	97H	*Ctrl
68H	h	78H	x	88H	F9	98H	*Shift
69H	i	79H	y	89H	F10	99H	*Left Alt
6AH	j	7AH	z	8AH	F11	9AH	*Right Alt
6BH	k	7BH	{	8BH	F12	9BH	1s Delay
6CH	l	7CH		8CH	Insert	9CH	*Win-GUI
6DH	m	7DH	}	8DH	Home	9DH	*Keystroke
6EH	n	7EH	~	8EH	Page Up		
6FH	o	7FH	DEL	8FH	Delete		

 Note

When Ctrl, Shift, Alt, GUI are set as prefix or suffix, they will be output in combination with the next character (not supported when set to ALT, TH keyboard). The character after Keystroke is directly output as the key value.