2D Image Barcode Scanner

User Manual

Catalogue

1 Product introduction

1.1 Manual introduction

This instruction manual mainly provides various function setting instructions of TMS-Z26 products。By scanning the barcode for setting functions in this manual, you can change the communication interface parameters, reading working mode, prompt mode, data processing and output, reading code system and barcode parameters of TMS-Z26.

The appendix lists the default parameter configuration of TMS-Z26 products at the factory. In most cases, users can meet most common needs without configuration.

1.2 Range of application

Applies to product function settings。

1.3 Use setting code

Reading the barcode of "Enable Setup Code" enables the reading module to be turned on, and configures the function by reading a specific barcode (setup code function). After the function is turned on, you can modify the parameters of the reader module by reading one or more setting codes.

After reading the "Setting Code Off", the reading module will disable most of the setting code processing functions. In this state, only the specific setting code of the "Setting Code On" can be read and processed.

*Enable Setting code

Disable Setting code

Reading the barcode of "Enable Setup Code" enables the reading module to be turned on, and configures the function by reading a specific barcode (setup code function). After the function is turned on, you can modify the parameters of the reader module by reading one or more setting codes.

After reading the "Setting Code Off", the reading module will disable most of the setting code processing functions. In this state, only the specific setting code of the "Setting Code On" can be read and processed.

Output setting code content

*No Output setting code content

1.4 factory default

Note: Please use the "Restore Factory Default" function with caution. After reading this setting code, the current parameter settings will be lost and the factory default values will be replaced. The

factory default parameters and functions can be found in the appendix。

factory default

1.5 User default settings

In addition to the factory default settings, you can save the settings you frequently use as user default settings.

Scanning the code of "save the current settings as user default settings" will save all the current configuration of the scan module as the user default settings. If there is user default configuration information on the reading module, the current configuration information will replace the original user default configuration information after this operation. Reading "Restore to user default settings" will make the module switch to the state of user default settings.

Note: After restoring the factory default settings, the previously saved user default settings will not be lost.。

Save current settings as user default settings

Restore to user default settings

2 Communication Interface

The reading module provides a TTL serial communication interface and a USB interface (optional function) to communicate with the host. Through the communication interface, it is possible to receive the reading data, control the command issued by the reading module, and change the functional parameters of the reading module.

In particular, the reading module adopts the method of automatically identifying the communication interface. If the serial communication interface is connected, the device automatically selects the interface without switching the communication interface. If the USB communication interface is connected, the device will be enumerated according to the configuration, which may be a keyboard, virtual serial port or HIDPOS interface.

2.1 RS232 communication interface

The serial communication interface is a common way to connect the reading module and the host device. When using the serial communication interface, the communication parameter configuration must be completely matched between the reading module and the host device to ensure smooth communication and correct content.

The serial communication interface provided by the reader module is based on TTL level signals. If the RS-232 format must be used, a conversion circuit must be added externally.

RS232

The default serial communication parameters of the reading module are as shown in the table below. If they are inconsistent with the host device, they can be modified by reading the setting code.

spec	default
Serial communication type	standard TTL-232
Baud Rate	9600
Parity Type	None
Data Bits	8
Stop Bits	1
Hardware Flow Control	None

2.1.1 Baud Rate

The baud rate is in bps: (bits per second and the optional configuration parameters are listed in the table.


1200


2400


4800


*9600


14400


19200


38400


57600


115200

2.1.2 Check

Customers can modify the serial parity by scanning the following configuration code.


*NONE


ODD


EVEN

2.2 USB HID-KBW

The user can scan the following configuration code to enable data output through the serial port while HID-KBW is output.


*Switch to HID-KBW interface

2.2.1 Delay setting between key

You can also modify the interval between valid message and release message of the device by scanning the following setting codes.The setting range between 0~75ms, and the default setting is 2ms. Refer to Appendix D for the method


*Default delay


None Delay


Short Delay


Long Delay


Delay between custom keys

2.2.2 Polling speed

The keyboard polling speed can be set to 1~10 ms by the following setting code. The smaller of the set value, the faster the reading module can send characters to the host. If the host loses characters, please increase the polling speed setting value.


*polling speed 1mss


polling speed 2ms


polling speed 3ms


polling speed 4ms


polling speed 5ms


polling speed 6ms


polling speed 7ms


polling speed 8ms


polling speed 9ms


polling speed 10ms

2.2.3 Keyboard Language Setting

Use the U.S. keyboard layout by default .If you choose another country's keyboard layout, the output encoding method needs to be set to the original data output.


*USA


French


Italian


Germany


Spanish


Turkish Q


British


Portuguese


Portuguese-Portugal


Portuguese-Brazil

Hungary

Turkish F

Greece

Sweden

Finland

Denmark

Czech Republic

Austria（Germany）

Italy（142）

Russian

Russian Typewriter

Arabic

Irish

Polish 214

Polish Program

Dutch

Japan

Thailand


Croatia


Romania


Bulgaria


Slovakia


North Korea

2.2.4 Alt combination outputs ASCII characters

In order to enable the device to input any ASCII character in any language system (the hexadecimal value is between 0x00 and 0xFF), the serial keyboard settig for Alt combination outputs ASCII character mode. When using this combination method to output characters, because the output data is more, the speed will be slowed down.
Use this function to select any of the following modes according to actual application needs:

In order to enable the device to input any ASCII character (the hexadecimal value is between 0x00 and 0xFF) in any language system, the virtual keyboard is set to output the ASCII character mode for combination. When using this combination method to output characters, because if more data output , the speed will be slowed down.
You can choose any of the following modes according to actual application needs:
Mode 1: Use Alt combination to output codes that are not supported by the keyboard layout of the current scanning engine and ASCII characters between 0x20~0xFF.
Mode 2: Use Alt combination to output ASCII characters between 0x20~0xFF.
Mode 3: Use Alt combination to output ASCII characters between 0x00~0xFF.
Note: If both "Mode 3" and the control character escape function are enabled at the same time, the control character (0x00~0x1F) will output the Ctrl key combination.


*Do not use the Alt combination


Mode 1


Mode 2


Mode 3

2.2.5 Control character escape output Ctrl key combination

ASCII control characters with hexadecimal values between 0x00 and 0x1F can be set to escape

the output combo control key for use in applications where combo control keys are required. ASCII values correspond to function keys or control key combinations as shown in Appendix E: Control Character Escape Table.


*No escaping

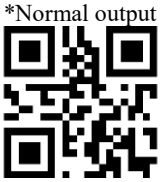

Escaping

2.2.6 Case conversion control

Through the following configuration code configuration, A~Z letter case conversion can be realized.


*Normal output


Case reversal


All caps


All lowercase

2.3 USB Virtual serial port

When the reading module uses the USB communication interface, but the host application uses the serial port communication to receive data, the reading module can be set as the USB virtual serial port communication mode. This feature requires the appropriate driver to be installed on the host.


USB-COM port

2.4 USB HID-POS

USB HID-POS Interface is recommended for use by new applications. Base on HID interface, no need to install the driver.


HID-POS port

Protocol format: :

- vid：0x26f1
- pid：0x8803

The host sends the data format：

Byte	Content
0	Message ID (0x04)
1	Effective data length
2-61	Data
62	0x00，1 Byte reserved
63	0x00(There is no data behind) 0x01(There is still data behind)

Data format sent from the scanning device to the host

Byte	Content
0	Message ID（0x02）
1	Effective data length
2-57	Data
58-62	0x00，5Byte reserved
63	0x00(There is no data behind)0x01(There is still data behind)

3 Reading mode

3.1 Batch mode

In batch mode, when the trigger control interface of the reading module changes to the trigger level, the reading module starts to shoot and read; if the control interface is always at the trigger level (low level), the module will continue to read the code, the same barcode Can only be read once. When the reading is successful, the reading module will output the edited content through the communication interface. To start a new batch reading, the host needs to cancel the trigger level first, and then send the trigger level.

Batch mode

3.2 Trigger mode

In the trigger mode, when the trigger control interface of the reading module changes to the trigger level, the reading module starts shooting and reading; within the limited time range of "single reading time", if the trigger level is maintained, it will continue shoot and read until you succeed. When the trigger level is cancelled, or the reading exceeds the single reading time limit, the shooting and reading will be suspended. When the reading is successful, the reading module will output the edited content through the communication interface. To start a new trigger reading, the host needs to cancel the trigger level first, and then send the trigger level.

* trigger mode

3.2.1 Level condition or pulse condition

In the trigger mode, you can choose to use level maintenance conditions or pulse trigger conditions. The level maintaining condition means that the level of the trigger signal needs to be maintained from the beginning of the reading to the end of the reading. The pulse trigger condition means that the level pulse of the trigger signal is detected, that is, the reading starts, and the reading ends when the reading is successful or the single reading time limit condition is reached.

*Level conditions

Pulse condition

3.2.2 Single reading time limit

Single read time limit: it is the maximum shooting and reading time allowed while holding the trigger level in trigger mode. If the length limit is exceeded, the reading action will stop shooting, whether or not the reading is successful. The length of a single read is set to range from 1000 to 3600000ms, and the default length is 3000ms. Refer to Appendix D for setting the limit of a single read time for custom modification.

*single reading time 3000ms

Single reading time 5000ms

Customize to modify the length limit of a single reading time

3.2.3 Auto sleep when no reading

In manual mode, it is allowed to select the automatic sleep function when no reading. "no reading" refers to the state of no buttons and no communication for a certain period of time. Automatic dormancy is to make the device enter a state of lower power consumption. When there is a trigger signal or communication with the upper computer, it will automatically resume from the dormant state to the working state. This function only takes effect in serial port mode.

*No auto sleep

允许自动休眠

3.2.4 Idle time-length condition

No reading barcode setting range of 0~65535ms， Default duration is 500ms。Please refer to Appendix D for the idle time setting method.

*500ms

1000ms

Customize Setting Idle Time

3.2.5 The same barcode reading delay

In order to prevent the same code from being read multiple times in succession, the reader can be asked to read the same code if it can not read the same code continuously for a period of time in this mode.

The same barcode reading delay means that the reader will read the same barcode and compare with the last reading time. When the interval time is longer than the reading delay time, the same barcode is allowed to be read out, otherwise the output is not allowed.

“ Setting the same barcode reading no delay”, input the same barcode when reading .

Set to "Require the same read delay" and set to "no rereading timeout reset", the same bar code must exceed the delay time limit before the output can be read.

Set to "Require the same reading delay" and set to "Readable Read time out Reset", the output can only be read after the same bar code is not read beyond the time limit of the delay.

Set to "Require the same reading delay" and set "Re-reading timeout reset prohibited", the same bar code can be read and output only after the delay time limit is exceeded.

Set to "Require the same reading delay" and set "Enable reread timeout reset", the output can be read only after the delay time limit has not been read.

The same barcode reading delay can be setting“the infinite” otherwise,the same barcode no input.

*the same barcode reading no delay

the same barcode reading delay

*no rereading timeout reset

Enable reread timeout reset

Read the following settings bar code to quickly change the limit value of the same reading delay. The same reading delay is set within the range of 0~65535ms, by the default time is 1500ms. To customize and modify the same reading delay time, please refer to Appendix D for setting method.

Modify the same bar code reading with unlimited delay

Modify the same bar code reading delay1000ms

*Modify the same bar code reading delay 1500ms

Modify the same bar code reading delay3000ms

Modify the same code reading delay5000ms

Customize and modify the same bar code reading delay time

■ 3.3 Autosensing Mode

Setting into the autosensing mode,the reader will immediately began to monitor the brightness of the surrounding environment, when the scene changes, the reader waits for the set of image stabilization time after the end of reading. After reading the successful output of information or single reading time-out, the reader will be some time interval (can be set) to re-enter the monitoring state.

In the autosensing mode, the reader can also start reading the code after pressing the trigger key, and continue to monitor the brightness of the surrounding environment when the reading code successfully outputs the message or release the trigger key.It need to be released the trigger before re-enter the monitoring state.

Auto sensing Mode

3.2.6 Single reading time

Single reading time: this parameter refers to the maximum length of time that the reader will be allowed to continue acquisition recognition before the reading is successful.If single reading timeout, the reader will enter the interval of not acquiring readings. Single reading time length setting range of 1000~3600000ms, the default duration is 3000ms.Refer to Appendix D for setting the single read time for custom modification.

*Modifying single reading time 3000ms

Modifying single reading time5000ms

Setting the single read time for custom modification

◆ 3.2.7 The same barcode reading delay

It is avoided that the same code be read consecutively multiple times, and the reader can be required to read the same code for a period of time in this mode.

The same barcode reading delay means that after reading a barcode, the same barcode is refused to be read within the setting time.Only after a setting time it can be read and output.

Set to "the same barcode reading without delay", read the same bar code and output.

Set to "the same barcode reading delay" and set to "prohibit reading interval", the same bar code must exceed the delay time limit before the output can be read.

Set to "the same barcode reading delay" and set to "reading interval", the output can only be read after the same bar code is not read beyond the time limit of the delay.

The same bar code will not output If the same bar code reading delay is set to "without delay".

*The same barcode reading NO delay

The same barcode reading delay

*Disable reading interval

Enable a reread timeout reset

Read the following Settings code to quickly change the limit value of the same barcode reading delay time.The same reading delay is set within the range of 0~65535ms, and the default time is 1500ms.To customize and modify the same reading delay time, refer to Appendix D for setting method.

The same barcode reading NO delay

Same barcode reading delay 1000ms

*Same barcode reading delay 1500ms

Same barcode reading delay 3000ms

Same barcode reading delay 5000ms

Customize same barcode reading delay

◆ 3.2.8 Setting stabilization time length

The image stabilization time range is 0~1600ms, and the default time is 60ms.Refer to Appendix D for setting the image stabilization time.


*stabilization time 60ms


stabilization time 500ms


stabilization time 1000ms


Customize stabilization time

◆ 3.2.9 Sensitivity

Sensitivity refers to the degree of change of the scene detected in the sense reading mode.

It is used to adjust the reading module working in the autosensing mode to monitor the degree of change in the scene and determine the degree of change that needs to be converted to the reading state.The higher the sensitivity, the less changes are needed in the scene;On the contrary, the lower the sensitivity, the greater the variation of the scene is required.


Normal sensitivity


Low sensitivity


*High sensitivity


Very high sensitivity

It is recommended that the following free Settings are not used when the above sensitivity is set directly to suit the application.

Set the threshold value of scene changes freely. When the degree of scene changes reaches or exceeds the threshold value, it will be detected and identified as the scene has enough changes, thus turning into the state of reading.The higher the sensitivity, the lower the scene change threshold.

When the scene change threshold is set very high, the sensitivity of the reading module will be very low. For specific applications, please test first to determine the best threshold.

When setting the scene change threshold, data codes need to be used in combination. The default threshold is 10.Refer to Appendix D for setting method.


Modify the scene change threshold

■ 3.4 Continuous mode

Continuous mode refers to the working mode in which the reading module shoots, reads and outputs information in a continuous cycle.In this mode, regardless of whether it is the same bar code, the reading module will recognize and output.

In continuous mode, the trigger can be used to stop continuous reading or continue continuous reading.In continuous reading, the trigger is withdrawn again, and the reading will be suspended.When the reading state is suspended, the trigger is revoked and the reading continues.This configuration may not be in effect while in continuous reading state.


Continuous Mode

◆3.4.1 Setting single reading time

In continuous reading mode, this parameter refers to the reading before the success of reader to allow continued recognition of the maximum acquisition time. After a successful reading or a single reading time-out, the reader enters the interval of not acquiring readings.Single reading time length setting range of 1000 ~ 3600000ms.The default duration is 3000ms.Refer to Appendix D for setting method.


*Modifying single reading time 3000ms


Modifying single reading time 5000ms


Customize single reading time

◆ 3.4.2 Reading interval length

This parameter refers to the interval between two adjacent readings, that is, after finishing the last reading of the reader (no matter the reading is successful or not), the reading will not be carried out within the set interval, until the interval ends After reading the next code. The reading interval setting range is from 0 to 65535ms. The default interval is 1000ms.Refer to Appendix D for customize.

Modifying reading interval length 500ms

*Modifying reading interval length 1000ms

Modifying reading interval length 2000ms

Modifying reading interval length 5000ms

Modifying reading interval length 0ms

Customize reading interval length

◆ 3.4.3 The same barcode reading delay

It is avoided that the same code be read consecutively multiple times, and the reader can be required to read the same code for a period of time in this mode.

The same barcode reading delay means that after reading a barcode, the same barcode is refused to be read within the setting time.Only after a setting time it can be read and output.

Set to "the same barcode reading without delay", read the same bar code and output.

Set to "the same barcode reading delay" and set to "prohibit reading interval", the same bar code must exceed the delay time limit before the output can be read.

Set to "the same barcode reading delay" and set to "reading interval", the output can only be read after the same bar code is not read beyond the time limit of the delay.

The same bar code will not output If the same bar code reading delay is set to "without delay".

*The same barcode reading no delay

The same barcode reading delay

*Disable rereading timeout reset

Enable rereading timeout reset

Read the following Settings code to quickly change the limit value of the same reading barcode delay.The same reading barcode delay is set within the range of 0~65535ms, and the default time is 1500ms.To customize and modify the same reading delay time, refer to Appendix D for setting method.

Modifying same barcode reading no delay

Same barcode reading delay 1000ms

*Same barcode reading delay 1500ms

Same barcode reading delay 3000ms


Same barcode reading delay 5000ms


Customize same barcode reading delay

■ 3.5 Command Trigger mode

To better fit embedded devices, modules can be configured in command trigger mode.In this mode, the reader starts to read the code when it receives the scan command sent by the host,and stops reading after the reading succeeds in outputting the message or the reading time of single reading.This mode can be configured to enter a low-power state


Command Trigger Mode

Serial port command table in this mode (hexadecimal)：

Function	serial port instructions
Command trigger mode	5A 00 00 0a 53 5f 43 4d 44 5f 30 32 30 44 65 A5
Start reading	5A 00 00 08 53 52 30 33 30 33 30 31 08 A5
End of reading	5A 00 00 08 53 52 30 33 30 33 30 30 09 A5
Sleep	5A 00 00 08 53 52 44 46 30 30 35 30 0e A5
Wake up(any command)	5A 00 00 08 53 52 44 46 30 30 35 31 0f A5

➢ 4 Lighting and aiming

■ 4.1 Lighting

Lighting for shooting photography to provide auxiliary lighting, beam exposure to the reading target, to improve reading performance and adaptability to weak ambient light. The user can set it to one of the following depending on the application environment:

Normal (default setting): The light is on when taking a picture, and off at other times.

Always: The light is on after the module is switched on.

No lighting :The lighting does not illuminate under any circumstances.

*Normal

No lighting

Always

■ 4.2 Aiming

There is a projection device on the reading module, which is used to project a special figure when shooting the reading module, and it represents the center of the scene image shot by the reading module.When the reading module is used to shoot and read, the image is projected on the reading target, and the reading module "aims" at the reading target, so that the required target can be read out more easily.

Normal (default setting): The light is on when taking a picture, and off at other times.

Always: The light is on after the module is switched on.

No lighting :The lighting does not illuminate under any circumstances.

*Normal

No lighting

Always

➢ 5 Prompt output

■ 5.1 All beeps

In various scenarios, the reading module has the boot prompt sound, the successful reading prompt sound and the setting code prompt sound.This setting code can control all the prompts.

Sound off

*Sound on

■ 5.2 Power on prompt

When the reading module is powered on and started successfully, it can output the boot prompt sound according to the setting requirements.

*Turn on prompt output

Turn off prompt output

■ 5.3 Read the success tone

After successful reading, the reading module can output PWM signal to drive the external buzzer circuit to emit sound.The sound signal can be set to be turned off or allowed to output, and the type and volume of the sound can also be changed by setting.The following setting code can be set accordingly.

*Enable successful prompt prompt

Disable successful prompt prompt

◆ 5.3.1 Prompt type


Type 1


Type 2


*Type 3

◆ 5.3.2 Prompt tone volume


*High volume


Mid volume


Low volume

■ 5.4 Read the setting code prompt tone


*Enable prompt tone


Disable prompt tone

■ 5.5 Read the successful LED prompt


*Enable


Disable

Read the following setting code to modify the length of LED prompt. The default length is 200ms.Customize and modify the LED prompt time, and refer to Appendix D for setting method.


Modifying LED prompt time 100ms


Set the LED prompt time 200ms


Set the LED prompt time 500ms


Customize the LED prompt time

■ 5.6 Not Good Read（NGR）

The "Not Good Read information" refers to the special information freely defined by the user output by the reading module when the reading code is not successful in some working modes, and the user or the program can adjust the subsequent operations according to the detected information.


Enable NGR information


*Disable NGR information

Modify NGR information

Read the following Settings code to start `setting` NGR information.This setting code needs to be configured in combination with the data code. If you directly read the "save" of the data code, the length of the NGR message will be "zero". In this case, even if the NGR message is required to be sent, there will be no substantial output of the information content, which may cause confusion to the performance in use.

The length of the NGR message is 0 to 7 characters, and the range of characters is 0 to 255.


Setting NGR information

➢ 6 Data Editing

The read data needs to be distinguished in many applications.

Data is usually distinguished by using Code ID as identification, and in some special cases, prefix and terminator are used as distinguishing methods.

Data editing mainly has the following operations:

Can add before decoding data: start character, Code ID, prefix

After decoding the data, you can add: suffix

After all the above operations are completed, you can add: terminator

After configuration, the information content that the device can output can be in one of the following two formats: :

[Start]+ [Code ID] + [Prefix] + [DATA] + [Suffix] + [Terminator]

[Start]+ [Prefix] + [Code ID] + [DATA] + [Suffix] + [Terminator]

Except for the DATA part, which must be output for bar code information, other fields are optional. Prefix refers to the prefix; Suffix refers to the suffix; Terminator refers to the terminator.

■ 6.1 Comprehensive settings

For all "add" operations

The "add" operation refers to: start character, code ID addition, custom prefix information addition, custom suffix information addition, and terminator addition. The following "Allow all information to add" and "Prohibit all information to add" have an effect on the above several functions at the same time.

- "Allow all information to be added": The start character, Code ID, prefix, suffix, end character, etc. will be allowed to be added to the data output content.
- "Prohibit adding all information": The start character, Code ID, prefix, suffix, end character, etc. will not be added to the data output content.

Allow all information to be added

Prohibit all information to be added

■

■ 6.2 Increase length information output

This configuration is suitable for non-keyboard interfaces. Before the device outputs data, increase the length of two bytes, including all other information.


*Not output decoding length information


Output decoding length information

■ 6.3 Start character


*No start character


起始符设置成STX

■ 6.4 Prefix and Code ID order selection

When both the Code ID and Prefix fields are configured to require output, the order of the two fields can be selected through the following two setting codes, and the content order of the other fields will be output later。


Code ID+Prefix


*Prefix+Code ID

■ 6.5 Prefix

◆ 6.5.1 Add prefix

The prefix is a character string that can be customized and modified by the user before decoding the information.


Allow prefix


*No prefix

◆ 6.5.2 Modify prefix

Read the "modify prefix content" setting code, and combine the read data code to modify the prefix content. Use 2 hexadecimal values for each prefix character, and the prefix allows up to 16 characters. Please refer to Appendix C for the hexadecimal conversion table of character values.


Modify prefix content

Example: Set the custom prefix to "CODE":
1. Check the character table to get the hexadecimal value corresponding to the 4 characters of "CODE": 43, 4F, 44, 45;
2. Read the "Enable Setting Code" (if it is already turned on, you can ignore it);
3. Read the "modify prefix content" setting code;
4. Read the following data code: "4" "3" "4" "F" "4" "4" "4" "5";
5. Read the "Save" setting code;

■ 6.6 Code ID

◆ 6.6.1 add Code ID

Users can use Code ID to identify different bar code types, and the Code ID corresponding to each bar code type can be modified freely. The CodeID of all barcodes is 1 character, and must be a letter, and cannot be set as a number, invisible character, or punctuation, etc.


Allow to add CODE ID


*no allow to add CODE ID

Read the following setting code to restore the Code ID of all barcode types to the default value, please use it with caution.


The default CODE ID for all bar codes

◆ 6.6.2 Modify the CODE ID

The Code ID of each bar code type can be modified independently, and it needs to be used by reading the corresponding setting code and combining it with the data code.
Example of modifying PDF417 Code ID to the letter ‘p’:
1. Look up the table and get the hexadecimal value corresponding to "p" is 70;
2. Read "Enable Setup Code";
3. Read the setting code of "Modify PDF417 Code ID";
4. Read the data code "7", "0";
5. Read "Save";

6. Read "Close Setting Code".
Modify the Code ID setting code list of each barcode type：


Modify PDF417 Code ID


Modify Code128 Code ID


Modify QR Code ID


Modify DM Code ID


Modify EAN8 Code ID


Modify EAN13 Code ID


Modify UPCE0 Code ID


Modify UPCE1 Code ID


Modify UPCA Code ID


Modify IATA25 Code ID


Modify Code 39 Code ID


Modify Code 93 Code ID


Modify Interleaved 2 of 5 Code ID


Modify Codabar Code ID


Modify Industrial 25 Code ID


Modify Matrix 25 Code ID


Modify Code 11 Code ID


Modify MSI Plessey Code ID


Modify Micro QR Code ID


Modify Code32 Code ID


Modify ISBN Code ID


Modify ISSN Code ID


Modify GS1 128 Code ID


Modify AIM 128 Code ID


Modify ISBT 128 Code ID


Modify Micro PDF417 Code ID


Modify Aztec Code ID

■ 6.7 Suffix

◆ 6.7.1 Add a suffix

The suffix is a character string that can be customized and modified by the user after decoding the information.


Allow to add a suffix


***no allow to add a suffix**

◆ 6.7.2 Modify the suffix

Read the "modify suffix content" setting code, and combine the read data code to modify the suffix content. Use 2 hexadecimal values for each suffix character, and the suffix allows up to 16 characters. Please refer to Appendix C for the hexadecimal conversion table of character values.

Modify the suffix

Example: Set the custom suffix to "CODE":

1. Check the character table to get the hexadecimal value corresponding to the 4 characters of "CODE": 43, 4F, 44, 45;
2. Read the "Enable Setting Code" (if it is already turned on, you can ignore it);
3. Read the "modify suffix content" setting code;
4. Read the following data codes: "4", "3", "4", "F", "4", "4", "4", "5";
5. Read the "Save" setting code;

■ 6.8 Terminator

The terminator is used to mark the end of a piece of complete data information, and is used to indicate the complete end of a data output. The terminator is 1-7 characters.

◆ 6.8.1 Add terminator

Choose to read the following setting codes, you can make the reading module add the end character, or no longer add the end character.

*Add terminator

No add terminator

◆ 6.8.2 Modify the terminator

Read the following setting codes, you can quickly set the terminator to 0x0D or 0x0D, 0x0A.

*Set the end of addition to 0x0D

Set the end of addition to 0x0D 0x0A

Read the "modify end character" and combine to read the data code to modify the character content of the end character.

When modifying the terminator, use 2 hexadecimal values to represent the characters, and read 2 or 4 values sequentially to represent 1 character or 2 characters. Refer to Appendix C for the hexadecimal conversion of characters.


Modify the terminator

Modify the terminator to be the letter 0x0D Example:
1. Read the "Enable Setting Code" (if it is already turned on, you can ignore it);
2. Read the "modify end character" setting code;
3. Read the data code "0", "D";
4. Read "Save" ;

◆ 6.8.3 Quick configuration terminator


Closing terminator


*to add the carriage return CR


Add carriage return and line feed CRLF


Add LF


Add tab stops TAB


Add terminator ETX

■ 6.9 Data segment editing

◆ 6.9.1 Data segment interception

The decoding information Data consists of 3 parts: [Start] [Center] [End].
The user can select part of the information to be output by reading the following setting codes.


*Transfer the entire Data


Only transfer the Start segment


Only the End segment is transmitted


Only transfer Center segment

◆ 6.9.2 Data segment length modification


Modify the length of the Start section


Modify the length of the End section

It is necessary to read the corresponding setting code and use it in combination with the data code. The length can be modified from 0-255.

Modify the length of the Start segment to 0x02, example:

1. The hexadecimal system of 0x02 is represented by the data code "0" and "2";
2. Read "Enable Setup Code";
3. Read the setting code of "Modify Start Segment Length";
4. Read the data code "0", "2";
5. Read "Save";

■ 6.10 Encoding format

◆ 6.10.1 Output data encoding format

In order for the device to print Chinese data according to the specified encoding format, you can set the "Output Data Encoding Format". Including GBK, UNICODE. The default GBK format.


*Output encoding GBK (for Notepad/Excel)


Output encoding UNICODE (for word output)

In addition, there are some application scenarios that require the module to output the following encoding methods. If you use the keyboard layout of other countries, the output format needs to be set to the original data output. For serial port output, it may be necessary to convert the encoding to UTF8 for output.

original data output

Output encoding UTF8 (serial port)

■ 6.11 ECI mode setting

*Enable ECI mode

Disable ECI mode

■ 6.12 Invoice mode

*Allow invoice mode

Prohibit invoice mode

➢ 7 Barcode symbol parameters

■ 7.1 Global operations

◆ 7.1.1 Operations on all symbol types

Reading the following setting codes will operate on all supported symbol types, allowing or prohibiting reading. After prohibiting reading all types, only setting codes are allowed to be read.


Allow reading all types


Prohibit reading all types

◆ 7.1.2 Operation on all one-dimensional bar code symbol types

Read the following setting codes, and only perform unified operations on all one-dimensional bar code symbol types, or all allow reading, or all prohibit reading.


Allows to read all one-dimensional barcode types


Prohibit reading all 1D barcode type

◆ 7.1.3 Operation of all 2D barcode symbol types

Read the following setting codes, and only perform unified operations on all 2D barcode symbol types, or all allow reading, or all prohibit reading.


Allow to read all 2D barcode types


Prohibit reading all QR code types

■ 7.2 Inverse color code setting

If this configuration is turned on, the recognition speed will be affected. Please turn it on in the scene you need to use.

◆ 7.2.1 Operate all reverse color codes


Allow to read the reverse color code


*Prohibit read the reverse color code

◆ 7.2.1 1D code reverse color setting


Allows to read 1D reverse color code


Probit reading 1D Reverse color code

◆ 7.2.1 QR code reverse color setting

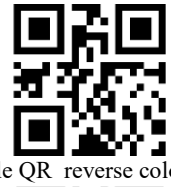

Enable PDF417 reverse color code


Disable PDF417 reverse color code


Enable DM reverse color code


Disable DM reverse color


Enable QR reverse color code


Disable QR reverse color code


Enable MicroPDF417 reverse color code


Disable MicroPDF417 reverse color code


Enable Aztec reverse color code


Disable Aztec reverse color code

■ 7.3 Code 128

◆ 7.3.1 Restore default settings


Code 128 (Defaulted)

◆ 7.3.1 Enable/Disable Code 128


Enable Code 128


Disable Code 128

◆ 7.3.1 Set length limit


*Set minimum length limit 00


Set minimum length limit 04


Set maximum length limit 32


*Set the maximum length limit to 255


Customize the minimum length


Customize the maximum length

■ 7.4 EAN-8

◆ 7.4.1 Restore default settings


EAN8 (Defaulted)

◆ 7.4.2 Enable/Disable EAN-8


*Enable EAN-8


Disable EAN-8

◆ 7.4.3 Output verification

EAN-8 The barcode data is fixed to 8 bytes, of which the last byte is the checksum.

◆


*Output check


No output check

◆ 7.4.4 Extension code

After setting to "Read 2-digit extension code" or "Read 5-digit extension code", the reader module can read barcode symbols with extension codes, or barcode symbols without extension codes. After setting to "Do not read 2-digit extension code" or "Do not read 5-digit extension code", the extension code attached to the bar code symbol will not be read and output.


Disable 2-digit extension code


Enable 2-digit extension code


*Disable 5-digit extension code


Enable 5-digit extension code

■ 7.5 EAN-13

◆ 7.5.1 Restore default settings

EAN-13 (Defaulted)

◆ 7.5.2 Enable/Disable EAN-13

Enable EAN-13

Disable EAN-13

◆ 7.5.3 Output verification

*Output check

*No Output check

◆ 7.5.4 Extension code

After setting to "Read 2-digit extension code" or "Read 5-digit extension code", the reader module can read barcode symbols with extension codes, or barcode symbols without extension codes. After setting to "Do not read 2-digit extension code" or "Do not read 5-digit extension code", the extension code attached to the bar code symbol will not be read and output.

*Disable 2-digit extension code

Enable 2-digit extension code

*Disable 5-digit extension code

Enable 5-digit extension code

◆ 7.5.5 EAN13 to ISBN

Other configurations are the same as EAN13.

Disable EAN13 to ISSN

Enable EAN13 to ISSN

◆ 7.5.6 EAN13 to ISSN

Other configurations are the same as EAN13.

* Disable EAN13 to ISSN

Enable EAN13 to ISSN

■ 7.6 UPCE0

◆ 7.6.1 Restore default settings

UPCE0 (Defaulted)

◆ 7.6.2 Enable /Disable UPC-E0

*Enable UPCE0

Disable UPCE0

◆ 7.6.3 Output verification


*Output check


*No Output check

◆ 7.6.4 Output system characters


*Output system characters


No output system characters

7.7 UPCE1

7.7.1 Restore default settings


UPCE1 (Defaulted)

◆ 7.7.1 Enable/Disable UPCE1


*Enable UPCE1


Disable UPCE1

◆ 7.7.2 Output verification


*Output check


*No Output check

◆ 7.7.3 Output system characters


*Output system characters


No Output system characters

◆ 7.7.4 Extension code

After setting to "Read 2-digit extension code" or "Read 5-digit extension code", the reader module can read barcode symbols with extension codes, or barcode symbols without extension codes. After setting to "Do not read 2-digit extension code" or "Do not read 5-digit extension code", the extension code attached to the bar code symbol will not be read and output.


*Disable 2-digit extension code


Enable 2-digit extension code


*Disable 5-digit extension code


Enable 5-digit extension code

■ 7.8 UPCA

◆ 7.8.1 Restore default settings


UPCA (Defaulted)

◆ 7.8.2 Enable/Disable UPCA


*Enable UPCA


Disable UPCA

◆ 7.8.3 UPCA to EAN13


*Disable


Enable

◆ 7.8.4 Output verification


*Output check


No output check

◆ 7.8.5 Output system characters


*Output system characters


No output system characters

◆ 7.8.6 Extension code

After setting to "Read 2-digit extension code" or "Read 5-digit extension code", the reader module can read barcode symbols with extension codes, or barcode symbols without extension codes. After setting to "Do not read 2-digit extension code" or "Do not read 5-digit extension code", the extension code attached to the bar code symbol will not be read and output.


*Disable 2-digit extension code


Enable 2-digit extension code


*Disable 5-digit extension code


Enable 5-digit extension code

■ 7.9 Interleaved 2 of 5

◆ 7.9.1 Restore default settings

InterLeaved25(Defaulted)

◆ 7.9.1 Enable /Disable InterLeaved25

◆

*Enable InterLeaved25

Disable InterLeaved25

◆ 7.9.2 Set length limit

*Set minimum length limit 00

Set minimum length limit 04

Set maximum length limit 32

*Set the maximum length limit to 255

Customize the minimum length

Customize the maximum length

◆

◆ 7.9.3 Check and output check

Interleaved 2 of 5 barcodes do not require verification, and users can choose to use verification according to different applications. Set to "No Verification", the reading module will not verify the

barcode data.

Set to "USS verification but not output verification", the reading module will verify the barcode data, and the output data after the verification is passed will not contain the verification character.

Set to "USS verification and output verification", the reading module will verify the barcode data, and the output data after the verification is passed contains the check character.

*No check

USS check but not output check

USS verification and output verification

■ 7.10 Matrix 2 of 5

◆ 7.10.1 Restore default settings

Restore Matrix 25 default settings

◆ 7.10.2 Enable/Disable Matrix 25

Enable Matrix 25

*Disable Matrix 25

◆ 7.10.3 Set length limit

*Set minimum length limit 00

Set minimum length limit 04


Set maximum length limit 32


*Set the maximum length limit to 255


Customize the minimum length


Customize the maximum length

◆ 7.10.4 Check and output check


*No Check


Check but do not output check


Check and output check

■ 7.11 Industrial 2 of 5

◆ 7.11.1 Restore Default Setting


Industrial 25 (Defaulted)

◆ 7.11.2 Enable /Disable Industrial 25


Enable Industrial 25


*Disable Industrial 25

◆ 7.11.3 Set length Limit


*Set minimum length limit00


Set minimum length limit04


Set maximum length limit32


*Set maxmum length limit255


Customized the minimum length


Customized the maximum length

◆ 7.11.4 Check and output check


*No check out


Check but not output check


Check but not output check

■ 7.12 IATA 2 of 5

◆ 7.12.1 Restore default setting

◆


IATA 25 (Defaulted)

◆ 7.12.2 Enable/ Disable IATA 25


Enable IATA 25


*Disable IATA 25

◆ 7.12.3Set length Limit

◆


*Set minimum length limit00


Set minimum length limit04


Set maximum length limit32


*Set minimum length limit255


Customized the minimum length


Customized the maximum length

◆ 7.12.4 Check and output check


*No check


Check but not output check


Check and output check

■ 7.13 Code 39

◆ 7.13.1 Restore default setting

◆

Code 39 （Defaulted）

◆ 7.13.2 Enable/Disable Code 39

*Enable Code 39

Disable Code 39

◆ 7.13.3 Enable/Disable Starting character and Ending character

◆

Enable starting character and Ending character

*Disable starting character and Ending character

◆ 7.13.4 Enable/Disable Set Length Limit

*Set minimum length limit00

Set minimum length limit04


Set maximum length limit32


*Set maximum length limit255


Customized minimum length


Customized minimum length

◆ 7.13.5 Check and output check


*No Check


Check but not output check


Check and output check

◆ 7.13.6 Disable/Enable Code32


*Disable Code32


Enable Code32

◆ 7.13.7 Full ASCII Support

The encoding method of Code 39 can include the representation of all ASCII characters. By setting, the reading module can support bar codes containing the full ASCII character set.


Enable Full ASCII


*Disable Full ASCII

■ 7.14 Codabar

◆ 7.14.1 Restore Default Setting

◆

Codabar (Defaulted)

◆ 7.14.2 Enable/Disable Codabar

*Enable Codabar

Disable Codabar

◆ 7.14.3 Set Length Limit

◆

*Set minimum length limit00

Set minimum length limit04

Set maximum length limit32

*Set maximum length limit255

Customized minimum length

Customized maximum length

◆ 7.14.4 Set whether to output verification

*No check

Module 10Check and output check

Module 10Check and output check

Module 16check and output check

Module 16Check but not output check

◆ 7.14.5 Enable/Disable Starting character and Ending character

There is a character before and after the Codabar barcode data as the start character and the stop character. The start character and the stop character are one of the four characters "A", "B", "C", and "D". The terminator is represented by "T", "N", "*", and "E". It can be set to not output the start character and stop character or output one of four formats.

Disable start character and stop character

*Enable starting character ABCD/Ending character ABCD

Enable starting character ABCD/Ending character TN*E

Enable starting character abcd/Ending character abcd

Enable start character abcd/stop character tn *e

■ 7.15 Code 93

◆ 7.15.1 Restore Default setting

Code 93 (Defauled)

◆ 7.15.2 Enable/Disable Code 93

*Enable Code 93

Disable Code 93

◆ 7.15.3 Set length limit

*Set minimum length limit00

Set minimum length limit04

Set maximum length limit32

*设置最大长度限制255

Customized minimum length

Customized maximum length

■ 7.16 Code 11

◆ 7.16.1 Restore Default Setting

Code 11 (Defaulted)

◆ 7.16.2 Enable/Disable Code 11


Enable Code 11


*Disable Code11

◆ 7.16.3 Set length limit


*Set minimum length limit00


Set minimum length limit04


Set maximum length limit32


*Set maximum length limit255


Customized minimum length


Customized maximum length

■ 7.17 MSI Plessey

◆ 7.17.1 Restore Default Setting


MSI Plessey (Defaulted)

◆7.17.2 Enable/Disable MSI Plessey

Enable MSI Plessey

*Disable MSI Plessey

◆ 7.17.3 Set length limit

*Set minimum length limit00

Set minimum length limit04

Set maximum length limit32

*Set maximum length limit255

Customized minimum length

Customized maximum length

■ 7.18 PDF 417

*Enable PDF 417

Disable PDF 417

■ 7.19 QR Code

*Enable QR

Disable QR

■ 7.20 Micro QR


Enable Micro QR


*Disable Micro QR

■ 7.21 Data Matrix


*Enable Data Matrix


Disable Data Matrix

■ 7.22 Micro PDF417


Enable MicroPDF417


*Disable MicroPDF417

■ 7.23 Aztec


Enable Aztec


*Disable Aztec

➢ 8 Data Code

■ 8.1 Data code 0~F


Data code 0


Data code 1


Data code 2


Data code 3


Data code 4


Data code 5


Data code 6


Data code 7


Data code 8


Data code 9


Data code A


Data code B


Data code C


Data code D


Data code E


Data code F

■ 8.2 Save or Cancel

After reading the data code, it is necessary to read the save code to save the read data. In addition to resetting, if you make an error while reading the data code, you can also cancel reading the wrong data.

For example, if a setting code is read and the data "1", "2" and "3" are successively read, the last read digit "3" will be cancelled if "Cancel the last read bit of data"; if "Cancel the previous read string of data" will be cancelled if "123" is read; if "Cancel the current setting" will be cancelled with the setting code.

Save

Cancel the last read bit of data

Cancel the previous read string of data

Cancel the current setting

➢ 9 Obtain device information

➢

product version number

➢ Appendix A: Default Settings Table

Parameter name		Default settings	Remark
Code setting			
Code function setting		Enable	
Send out code setting info		Do not send out	
Communication setting		Keyboard	
TTL-232 Stop bit	Baud rate	9600	
	Check	No check	
	Data bit	8 bits	
	Stop bit	1 bit	
	Hardware flow control	No	
HID-KBW	HID-KBW Keyboard layout	USA keyboard	
	HID-KBW Delay between the keys	2ms	
	Polling rate	1ms	
Mode Parameters			
The default mode of reading		Trigger mode	Can be selected as batch mode, trigger mode, induction mode, continuous mode.
Trigger mode	Single reading time	3000ms	Setting range：1000~3600000ms
	Trigger condition	Level	
	Same reading delay	No Delay	
	Rereading timeout reset	No	
	Same reading delay time	1500ms	
Induction mode	Single reading time	3000ms	Setting range：1000~3600000ms
	Stabilizing the image time	60ms	Setting range：0~1600ms
	Same reading delay	No Delay	
	Rereading timeout reset	No	
	Same reading delay time	1500ms	Setting range：0~65535ms
	Scenario changes threshold values	10	Setting range：1~50
Continuous mode	Single reading time	3000ms	Setting range：1000~3600000ms
	reading interval time	1000ms	Setting range：0~65535ms
	Same reading delay	No delay	
	Rereading timeout reset	No	
	Same reading delay time	1500ms	Setting range：0~65535ms
Lighting and aiming			
Lighting mode		Normal	
Aiming mode		Normal	
Prompt output			
Power on prompt		Output	
Parameter name		Default settings	Remark
Reading successful Prompt	Notification	Allow	
	Prompt type	Type 3	
	Prompt volume	High	
Setting bit reading prompt		Allow	
Succeed reading LED notification		Open	
NGR	Sending out notification	Do not send out	
	Prompt content	None	
Data editing			

Prefixes in CodeID order	The prefix comes before the Code ID	
Prefix adding	Not	
Prefix content	No	
CodeID	No	
Suffix adding	No	
Suffix content	No	
Ending character adding	YES	
Ending character content	0x0D	
Data segment interception	Transmits the entire Data segment	
Data segment length modification	0	Setting range：0~255
Output encoding type	GBK	Optional GBK, UTF8, Unicode, raw data output
ECI mode	Support	
Invoice mode	Support	
Barcode symbol parameter		
Code128		
Reading	Enable	
Max length	255	
Min length	0	
EAN-8		
Reading	Enable	
Output check character	Output	
2-bit extension code	Disable	
5-bit extension code	Disable	
EAN-13		
Reading	Enable	
Output check character	Output	
2-bit extension code	Disable	
5-bit extension code	Disable	
EAN13 to ISBN	Disable	
EAN13 to ISSN	Disable	
Parameter name	Default settings	Remark
UPC-E0		
Reading	Enable	
Output check character	Output	
Output system character	Output	
UPC-E1		
Reading	Enable	
Output check character	Output	
Output system character	Output	
2-bit extension code	Disable	
5-bit extension code	Disable	
UPCA		
Reading	Enable	
UPCA to EAN13	Disable	
Output check character	Output	
2-bit extension code	Disable	
5-bit extension code	Disable	
Output system character	Output	
Interleaved 2 of 5		
Reading	Enable	
Check	No check	
Output check character	Output	
Max length Size	255	
Min length	0	
Matrix 2 of 5		
Reading	Disable	

Check	No Check	
Output check character	NO	
Max length	255	
Min length	0	
Industrial 2 of 5		
Reading	Disable	
Checking	No	
Output check character	NO	
Max length	255	
Min length	0	
IATA25		
Reading	No	
Check	No	
Output check character	NO	
Max length	255	
Parameter name	Default settings	Remark
Min length	0	
Code 39		
Reading	Enable	
Check	No	
Output check character	NO	
Output starting character and ending character	NO	
Full ASCII support	NO	
Convert to Code 32	NO	
Max length	255	
Min length	0	
Codabar		
Reading	Enable	
Check	No	
Output check character	NO	
Output starting character and ending character	NO	
Starting character and ending character format	ABCD/ABCD	
Max length	255	
Min length	0	
Code 93		
Reading	Enable	
Max length	255	
Min length	0	
Code11		
Reading	No	
Max length	255	
Min length	0	
MSI Plessey		
Reading	No	
Max length	255	
Min length	0	
PDF417		
Reading	Enable	
QR		
Reading	Enable	
Micro QR		
Reading	No	
Data Matrix		
Reading	Enable	
Micro PDF417		
Reading	No	
Parameter name	Default settings	Remark

Aztec		
Reading	No	
Inverse color code	NO	

➢ Appendix B: Code ID Table

Code Type	Code ID
Code128	j
EAN-8	d
EAN-13	d
UPC-E0	c
UPC-E1	c
UPCA	c
Interleaved 2 of 5	e
Matrix 2 of 5	v
Industrial 2 of 5	D
IATA25	s
Code 39	b
Codabar	a
Code 93	i
PDF417	r
QR	Q
Data Matrix	u
Code 11	H
MSI Plessey	J
Micro QR	Q
Code32	b
ISBN	d
ISSN	d
MicroPDF417	s
Aztec	z
GS1128	j
AIM 128	f
ISBT 128	F

➢ Appendix C：ASCII Code Table

Hexadecimal	Decimal	Character	
00	0	NUL	(Nullchar.)
01	1	SOH	(StartofHeader)
02	2	STX	(Start ofText)
03	3	ETX	(End ofText)
04	4	EOT	(EndofTransmission)
05	5	ENQ	(Enquiry)
06	6	ACK	(Acknowledgment)
07	7	BEL	(Bell)
08	8	BS	(Backspace)
09	9	HT	(HorizontalTab)
0a	10	LF	(LineFeed)
0b	11	VT	(VerticalTab)
0c	12	FF	(FormFeed)
0d	13	CR	(CarriageReturn)
0e	14	SO	(ShiftOut)
0f	15	SI	(ShiftIn)
10	16	DLE	(DataLinkEscape)
11	17	DC1	(XON)(DeviceControl1)
12	18	DC2	(DeviceControl2)
13	19	DC3	(XOFF)(DeviceControl3)
14	20	DC4	(DeviceControl4)
15	21	NAK	(NegativeAcknowledgment)
16	22	SYN	(SynchronousIdle)
17	23	ETB	(EndofTrans.Block)
18	24	CAN	(Cancel)
19	25	EM	(EndofMedium)
1a	26	SUB	(Substitute)
1b	27	ESC	(Escape)
1c	28	FS	(FileSeparator)
1d	29	GS	(GroupSeparator)
1e	30	RS	(Request toSend)
1f	31	US	(UnitSeparator)
20	32	SP	(Space)
21	33	!	(ExclamationMark)
22	34	"	(DoubleQuote)
23	35	#	(NumberSign)
24	36	$	(DollarSign)
Hexadecimal	Decimal	Character	
25	37	%	(Percent)
26	38	&	(Ampersand)
27	39	`	(SingleQuote)
28	40	(	(Right/ClosingParenthesis)
29	41	)	(Right/ClosingParenthesis)
2a	42	*	(Asterisk)
2b	43	+	(Plus)
2c	44	,	(Comma)
2d	45	-	(Minus/Dash)
2e	46	.	(Dot)
2f	47	/	(ForwardSlash)
30	48	0	
31	49	1	
32	50	2	
33	51	3	
34	52	4	
35	53	5	

36	54	6
37	55	7
38	56	8
39	57	9
3a	58	: (Colon)
3b	59	; (Semi-colon)
3c	60	< (LessThan)
3d	61	= (EqualSign)
3e	62	> (GreaterThan)
3f	63	? (QuestionMark)
40	64	@ (ATSymbol)
41	65	A
42	66	B
43	67	C
44	68	D
45	69	E
46	70	F
47	71	G
48	72	H
49	73	I
4a	74	J
4b	75	K
4c	76	L
Hexadecimal	Decimal	Character
4d	77	M
4e	78	N
4f	79	O
50	80	P
51	81	Q
52	82	R
53	83	S
54	84	T
55	85	U
56	86	V
57	87	W
58	88	X
59	89	Y
5a	90	Z
5b	91	[(Left/OpeningBracket)
5c	92	\ (BackSlash)
5d	93	] (Right/ClosingBracket)
5e	94	^ (Caret/Circumflex)
5f	95	_ (Underscore)
60	96	' (GraveAccent)
61	97	a
62	98	b
63	99	c
64	100	d
65	101	e
66	102	f
67	103	g
68	104	h
69	105	i
6a	106	j
6b	107	k
6c	108	l
6d	109	m
6e	110	n
6f	111	o
70	112	p

71	113	q
72	114	r
73	115	s
74	116	t
Hexadecimal	Decimal	Character
75	117	u
76	118	v
77	119	w
78	120	x
79	121	y
7a	122	z
7b	123	{ (Left/OpeningBrace)
7c	124	| (VerticalBar)
7d	125	} (Right/ClosingBrace)
7e	126	~ (Tilde)
7f	127	DEL (Delete)

➢ Appendix D：Example for parameter setting

All examples below use to setting code to set parameters. In the article "read 'XXXXX'" refers to reading the function of the setting code.

■ The Method of Setting Time Limit of Single Reading

For example：setting single reading code time limit to be 1500ms， it can be set according to reading below codes.

1. Read " start setting code"; (if already started , it can be ignored)
2. Read " custom amend single reading time limit"
3. Read data code"1","5","0","0"
4. Read data code "save".
5. Read "close setting code" (if you want to continue use , it can be ignored)

■ The Method of Setting Idle Time

For example: setting idle time to be 500ms, it can be set according to reading below codes.

1. Read "start setting code" (if already started, it can be ignored)
2. Read "custom setting idle time"
3. Read data code "5", "0", "0";
4. Read data code "save";
5. Read " close setting code". (if you want to continue use , it can be ignored)

■ The Method of Setting Steady Image Time

■ For example: setting steady image time to be 500ms, it can be set according to reading below codes.

1. Read " start setting code" (if already started , it can be ignored)
2. Read " amend steady image time".
3. Read data code "5","0","0";
4. Read data code "save";

Read " close setting code". (if you want to continue use , it can be ignored)

■ The Method of Amending Time lapse for Same Reading Code

For example : setting the time-lapse for same data codes to be 1000ms , it can be set according to reading below codes.

1. Read "start setting code" (if already started , it can be ignored)
2. Read "custom amend the same code time lapse".
3. Read data code "1" ,"0","0","0";
4. Read data code "save";

5. Read “close setting code”.(if you want to continue use , it can be ignored)

■ The Method of Setting Scene Change Threshold Value

For example: setting scene change threshold value to be 4, it can be set according to reading below codes.

1. Read “start setting code”; (if already start, it can be ignored)
2. Read “amend scene change threshold value.”
3. Read data code “4”;
4. Read data code “save”;
5. Read “close setting code”. (if you want to continue use , it can be ignored)

The Method of Setting Code Reading Interval Time

For example : setting code reading interval time to be 500ms, it can be set according to reading below codes.

1. Read “start setting code” (if already start , it can be ignored)
2. Read “ custom amend code reading interval time.”
3. Read data code “5”,”0””0”;
4. Read date code “save”.
5. Read “close setting code”. (if you want to continue use , it can be ignored)

■ The Method of Amending Prefixion or Suffix

For example : setting prefixion to be “ CODE”,

1. Check character table to get corresponding hexadecimal value for the 4 characters “CODE” is 43,4F,44,45
2. Read “start setting code” (if already start , it can be ignored)
3. Read :amend prefixion”
4. Read data code :“4”, “3”, “4”, “F”, “4”, “4”, “4”, “5” ;
5. Read data code “save”
6. Read : “close setting code” (if you want to continue use , it can be ignored)

The Method of Amending Ending Character

For example : amend ending character to be 0x0D

1. Read “ start setting code” (if already start , it can be ignored)
2. Read “ amend ending character”
3. Read data code “0”, “D”
4. Read data code “ save”.
5. Read “close setting code” (if you want to continue use , it can be ignored)

The Method of Amending Code ID

For example : amend PDF417Code ID to be letter “P”.

1. Check character table to get “p” corresponding hexadecimal value 70
2. Read “start setting code” (if already start , it can be ignored)
3. Read “ amend PDF417 Code ID”
4. Read data code “7”, “0”
5. Read data code “ save”.
6. Read “ close setting code” (if you want to continue use , it can be ignored)

The Method of Setting NGR information

For example : amend NGR information to be word string“!ERR”.

1. Check character table to get “!ERR” corresponding hexadecimal value 21,45,52,52
2. Read “start setting code” (if already started , it can be ignored)
3. Read “amend NGR information”
4. Read data code “2”, “1”, “4”, “5”, “5”, “2”, “5”, “2” ;
5. Read data code “ save”

6.Read “close setting code “(if you want to continue use , it can be ignored)

The Method of Setting Max Length or Min Length Limit

Reminder : any ID barcode max length can not exceed 127; if max length is less than min length, then only read barcodes of those two longitudinals; if max length is equal to min length , then only read barcode of this longitudinal .

For example : limited Code 128 type can only read minimum 8 digits, maximum 12 digits.

1. Read “ start setting code”;(if already started, it can be ignored)
2. Read Code 128 attributive “setting min length limit” .
3. Read data code “8”
4. Read data code “ save”
5. Read code 128 attributive “ setting max length limit”.
6. Read data code “1”
7. Read data code “2”
8. Read data code “save”.
9. Read “close setting code “ (if you want to continue use , if can be ignored)

The Method of Setting Delay Time between Keys

- For example: set the delay time between keys to be 15ms, it can be set according to reading below codes.

1. Read “ start setting code”;(if already started, it can be ignored)
2. Read “custom set the delay time between keys”
3. Read data code “1” ,“5”
4. Read data code “ save”
5. Read “close setting code “ (if you want to continue use , if can be ignored)

The Method of Amending LED Reminder Time

For example: set reminder time of LED to be 200ms, it can be set according to reading below codes.

1. Read “ start setting code”;(if already started, it can be ignored)
2. Read “ custom set LED Reminder Time.”
3. Read data code “ 2”, “0”, “0”
4. Read data code “save”
5. Read “close setting code “ (if you want to continue use , if can be ignored)

➢ Appendix E：Control character conversion table

Decimal	Hexadecimal	Corresponding key value (control character conversion closed)	Corresponding key value (control character conversion open)
0	00	Null	Ctrl+2
1	01	Keypad Enter	Ctrl+A
2	02	Caps Lock	Ctrl+B
3	03	Null	Ctrl+C
4	04	Null	Ctrl+D
5	05	Null	Ctrl+E
6	06	Null	Ctrl+F
7	07	Enter	Ctrl+G
8	08	Left Arrow	Ctrl+H
9	09	Horizontal Tab	Ctrl+I
10	0A	Down Arrow	Ctrl+J
11	0B	Vertical Tab	Ctrl+K
12	0C	Backspace	Ctrl+L
13	0D	Enter	Ctrl+M
14	0E	Insert	Ctrl+N
15	0F	Esc	Ctrl+O
16	10	F11	Ctrl+P
17	11	Home	Ctrl+Q
18	12	Print Screen	Ctrl+R
19	13	Delete	Ctrl+S
20	14	tab+shift	Ctrl+T
21	15	F12	Ctrl+U
22	16	F1	Ctrl+V
23	17	F2	Ctrl+W
24	18	F3	Ctrl+X
25	19	F4	Ctrl+Y
26	1A	F5	Ctrl+Z
27	1B	F6	Ctrl+[
28	1C	F7	Ctrl+\
29	1D	F8	Ctrl+]
30	1E	F9	Ctrl+6
31	1F	F10	Ctrl+_

4 GS1 Composite Code

4.1 GS1复合码

Enable GS1 Composite

disable GS1 Composite

4.2 GS1 DataBar

Enable GS1 DataBar

disable GS1 GS1 DataBar

4.3 GS1 DataBar Limited

Enable DataBar Limited

disable GS1 DataBar Limited

4.4 GS1 DataBar Expanded

Enable GS1 DataBar Expanded

*disable GS1 DataBar Expanded

4.5 Febraban

4.5.1 ITF25类型

Enable Febraban

*disable Febraban

4.5.2 Code128类型

Enable Febraban

*disable Febraban