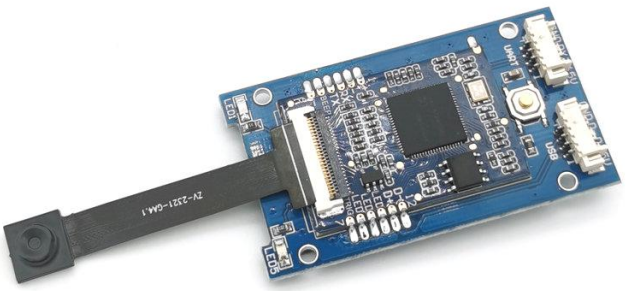
GM63F Bar Code Reader Module
User Manual



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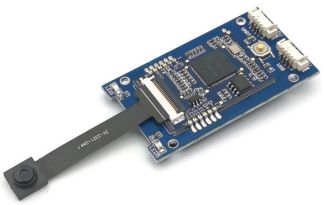
1. Introduction of Module

1.1 Introduction

GM63F Bar code reader module is a high performance scanner, can read 1D bar code easily and read 2D bar code with high speed. It also wins high scan speed for linear code, even for bar code on paper or screen.

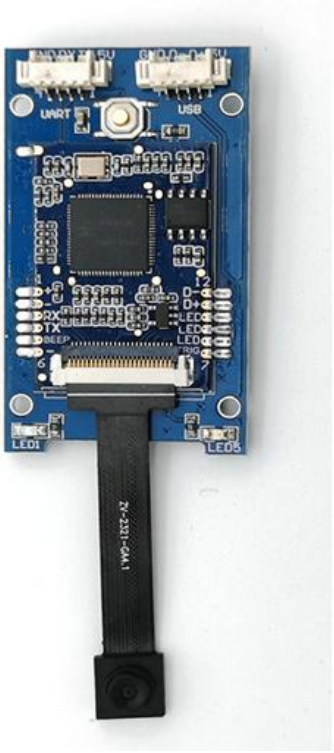
GM63F bar code reader module is an advanced bar code decoding algorithm which developed on image recognition algorithm, can easily and accurately read bar code, simplify secondary development.

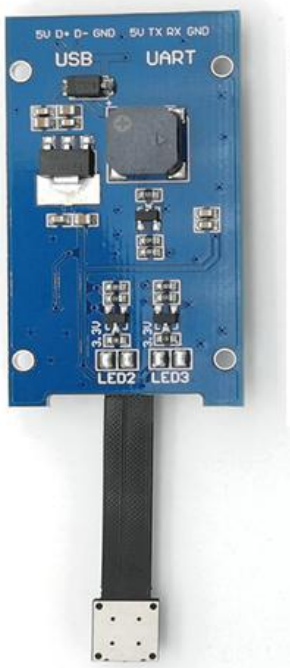


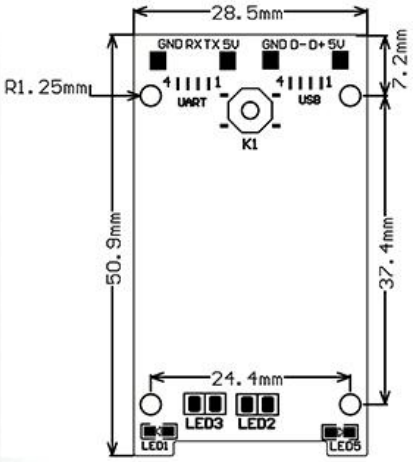
1.2 Technical Specification

Scanning Performance	Scan Mode		640*480 CMOS
	Read Code Type	2D	QR Code, Data Matrix, PDF417,
		1D	EAN,UPC,Code 39,Code 93,Code 128,UCC/EAN 128,
			Code 11,Codabar, Interleaved 2 of 5, Standard 25
			MSI-Plessey, GS1 Databar, Industrial 25, Matrix 2 of 5
	Accuracy of reading		One Dimensional Code:5mil
	Working Mode		Continuous Mode, Induction Mode, Manual Mode
	Depth of Field		30-150mm
	Contrast		≥25%
	Scanning angle		Intersection angle 360°, Elevation ± 55°, Deflection angle ± 55°
	Viewing Angle		Inclination 60°, Elevation 46°
Mechanical/ Electrical Parameters	Interface		TTL-232、USB
	Dimension		50.9*28.5mm
	Operating Current		DC5V≤180mA
Environmental Parameters	Operating Temperature		-20℃~+50℃
	Storage Temperature		-40℃~+70℃
	Operating Humidity		5%~95% (Non-Condensing)
	Environmental Light		50~10000LUX

1.3 Dimension(mm)







LED1: Indicator Light
When Scan Successfully
LED2: Fill Light
(Need solder by yourself)
LED3: Collimation Light
(Need solder by yourself)
LED5: Power Light

1.4 Interface definition

UART interface definition:

Pin	Name	Definition	Description
1	5V	Power Input	Power Input
2	TX	Data Output	TTL3.3V logical level
3	RX	Data Input	TTL 3.3V logical level
4	GND	Power Input	Signal ground. Connected to power ground

Interface note:

a) Baud rate 9600bps; 8 bit data; 1 bit stop bit; No check.

b) If the upper computer is MCU (3.3v), it is directly connected to TX and RX. If the upper computer is PC, the RS232 level conversion chip needs to be hooked up.

USB interface definition:

Pin	Name	Definition	Description
1	5V	Power Input	Power Input DC5V
2	D+	Data Output	USB
3	D-	Data Input	USB
4	GND	Power Input	Signal ground. Connected to power ground

1.5 Setup Code

Customer can set module by scan setup code.

Default: setup code on

Off

Output details in setup code

Default: Not output

Output

1.6 Reset

Back to Factory Setting by scan follow code.

Reset

2 Communication Interface

GM63F can receive database, control module and set functional parameter by TTL - 232.

2.1 Serial Communication Interface

It's default and common to connect module and mainframe(such as PC, POS) by serial communication interface. Make sure communication parameter for module and mainframe are same, then it will communicate smooth and correctly.

Serial Output

TTL-232 is used for serial interface which suitable for most system. Required change-over circuit for RS-232.

Default Parameter as formForm 2- 1. Only Baud Rate can be changed.

Form 2- 1 Default Parameters

Parameters	Default
Serial communication interface	Standard TTL-232
Baud rate	9600
Verification	N
Data bit	8
Stop bit	1
CTSRTS	N

Baud Rate Settlement

1200bps **4800bps** **9600bps(Default)**

14400bps **19200bps**

38400bps

57600bps

115200bps

2.2 USB Interface

Scan the following code to become standard keyboard input pattern when module connects PC by USB.

***USB PC Keyboard**

Scan the following code to modify the PC access cycle for HID devices.

***1ms**

3ms

5ms

10ms

Modify the interval between the device from releasing message to the next valid message by scanning the following setup code.

0ms

***1ms**

5ms

10ms

15ms

Modify the state of the CapsLock when it prints by scanning the following setup code.

***Off**

On

2.3 USB Virtual Serial Port

Scan the following code to become virtual serial port output pattern when module connects PC by USB.

USB Virtual serial port

3 Read Mode

3.1 Continuous Mode

On this mode, reading module read code continuous and automatic.

Break after reading one code, break time is changeable.

Click the toggle key to pause. Then click to continuous cyclic read code.

Default Continuous Mode

Time settlement for single read

The longest time before first successful reading. After this time, module will be into no read time.

Single Read time: 0.1~25.5 s, step-size: 0.1s;

0 means infinite time interval.

Default time: 5s

1000ms

3000ms

Default 5000ms

infinite time interval

Break time settlement

Time between two read. Can be settled from 0 to 25.5 s, step-size: 0.1s; default 1.0s

No break

200ms

500ms

Default 1000ms

2000ms

Same barcode reading delay

The same barcode reading delay refers to that after the module reads the same bar code, it will be compared with the last reading time,when the interval is longer than the reading delay, the same barcode is allowed to be read, otherwise the output is not allowed.

Same barcode reading delay

***Same bar code reading without delay**

Same barcode reading delay time

When the same barcode reading delay is enabled,scan the following code to set same barcode reading delay time.

500ms

1000ms

3000ms

5000m

3.2 Induction Mode

After setting, module begins to monitor brightness immediately. When scene changed, module will begin to read until time of image stabilization over.

After first successful reading or single reading time out, module will monitor brightness again after some time (changeable)

Module will cycle working as above when follow happen: module can’t find code between single read time, then it will stop reading and jump to monitor brightness.

On induction mode, module can begin reading code by click, and it will begin to monitor brightness when release toggle key or successfully output information.

Induction Mode

Time settlement for single read

The longest time read before first successful reading. After this time, module will be into no read time.

Single Read time: 0.1~25.5 s, step-size: 0.1s;

0 means infinite time interval.

Default time: 5s

1000ms

3000ms

Default 5000ms

infinite time interval

Break time settlement

After one successful output or time out for single read. Module will be into monitor after some time.

Time from 0 to 25.5 s, step-size: 0.1s; default 1.0s

No Break

200ms

500ms

Default 1000ms

2000ms

Sensitivity

Detect the degree of change in the scene in inductive reading mode.When the reading module judges that the scene change degree meets the requirements, it will switch from the monitoring state to the reading state.

***Ordinary sensitivity**

Low sensitivity

High sensitivity

Extra high sensitivity

Same barcode reading delay

The setup code is the same as in **Continuous Mode**.

3.3 Manual Mode

Manual mode is default mode. Click toggle key begin to read, stop when output or release toggle key

Manual Mode

Into sleep mode after not work for a while, can be settled by following code.

Sleep mode on

***Sleep mode off**

Can set the idle time for light sleep by scanning the following Settings.

0ms

***500ms**

3000ms

5000ms

3.4 Command Triggered Mode

Module begins to read when receive scan command from mainframe(bit0 of zone bit 0x0002 writes”1”) , and stop at output or read timeout.

Command triggered mode

Under command triggered mode, command for serial port trigger is 7E 00 08 01 00 02 01 AB CD;

After receiving command, model will output “ 02 00 00 01 00 33 31” and start scan.

Time settlement for single read

Read and Scan time before output. From 0.1s to 25.5s, step size 0.1s. 0 : infinite time interval; Default: 5s

1000ms

3000ms

Default 5000ms

infinite time interval

4 Lighting and Collimate

4.1 Lighting

Head lamp is used to additional lighting when read.

Normal(default): Head lamp will be on when read, others off.

Normally on: always on after boot.

OFF: head lamp is always off

***Normal**

Normally on

Off

4.2 Collimation

There will be a pointing light beam which can help user to find best distance.

Normal(default): pointing light beam shows when read

Normally on: pointing light beam shows after power on until power off

No Collimation: no pointing light beam

Normal(default)

Normally on

No Collimation

5 Prompts

5.1 Prompts Tone

Read "buzzer drive frequency", the buzzer can be set to active/passive buzzer, the drive frequency of the passive buzzer can also be set.

Buzzer drive frequency-passive low frequency

Buzzer drive frequency-passive medium frequency

***Buzzer drive frequency-passive high frequency**

Buzzer drive frequency - active drive

In the active buzzer mode, scan "Buzzer working level - high" can be set to low level when free, high level when busy; scan "Buzzer working level - low" can be set to high level when free, low level when busy.

***Buzzer working level - high**

Buzzer working level - low

Silence：Close all prompt tones

Silence on

***Silence off**

5.2 Read code successfully tone

Default on

Close read code successfully tone

Duration time setting. Default: 20ms

***20ms**

60ms

90ms

120ms

5.3 Data Code Format

Read following to enable the reading module to read the Chinese barcode of various encoding format.

***Input Data code format GBK**

Input Data code format UTF8

Input Data code format AUTO

Read following to print Chinese data according to specified code format.

GBK format: notepad, UNICODE format: WORD and input box for chat tools,

*Output-GBK

Output-UNICODE

Output-UTF8

5.4 Keyboard Settlement

Scan following code to change keyboard.

Default Keyboard- US

France

Germany

Japan

Spain

5.5 Image Flip

When meet flipped or mirror image, like:

原始图像　　镜像翻转

Scan code into or exit image flip mode

image flip mode

*Exit

PS: in the image flip mode can only scan flipped image. For normal, should exit.

5.6 Image Flip

*** One-dimensional barcode forbidden anti-color decoding**

Allow

*** Two-dimensional barcode forbidden anti-color decoding**

Allow

6 Data Edition

Sometimes we need to edit the data before output to make data separation and processing more easily.

Data edition include:

- Add Prefix
- Add Suffix
- Output CodeID
- Add End words”Tail”

Output sequence after data edition:

【Prefix】【CodeID】【Data】【Suffix】【Tail】

6.1 Prefix

Add prefix

Prefix is on the head of encoding Information , and can be self-defined.

Scan the code to add prefix.

Allow to add prefix

Default no prefix

Change prefix

Scan “change prefix” and “setup code” code to change prefix.

Use 2 base 16 to express each character.

Max 15 characters.

ASCII on appendix C.

change prefix

E.G. Change prefix to “DATA”

1. ”DTAT” in base 16: “44”, “41”, “54”, “41”

2. Confirm open the “ setup code”, if not, find on 1.6
3. Scan “change prefix” code
4. Successively scan “Code ID”: “4”, “4”, “4”, “1”, “5”, “4”, “4”, “1”
5. Scan “save” code

6.2 Suffix

Add Suffix

Suffix on the end of encoding Information, and can be self-defined.

Allow add suffix

Default no suffix

Change suffix

Scan “ change suffix” and “setup code” code to change prefix.

Use base 16 to express each character.

Max 15 characters. ASCII on appendix C.

Change Suffix

E.G.: Change suffix to “DATA”

1. “DTAT” in base 16: “44”, “41”, “54”, “41”

2.Confirm opening the “setup code”, if not, find on 1.6

3.Scan “change suffix” code

4.Successively scan “Code ID”: “4”, “4”, “4”, “1”, “5”, “4”, “4”, “1”

5.Scan “save” code

6.3 CODE ID

Add CODE ID

Users can identify different types of bar code by CODE ID. CODE ID use one character to identify and can be self- defined.

Allow add CODE ID

Default close CODE ID

Default of CODE ID

Scan “ Default of CODE ID” to back default ID, default ID on appendix B

all bar code back to default ID

Change CODE ID

Users can change CODE ID of any bar code by scan the setup code (as follow) and data edition code.

Base 16 is used to express each CODE ID.

ASCII on appendix C.

E.G.: change CODE ID of CODE 128 to “A”

1. Find “A”=”41” in base 16
2. Confirm opening the “setup code”, if not, find on 1.6
3. Scan “ change CODE 128”
4. Successively scan “Code ID”: “4”, “1”
5. Scan “save” code

Change CODE ID LIST

Change CODE ID of EAN13

Change CODE ID of EAN8

Change CODE ID of UPCA

Change CODE ID of UPCE0

Change CODE ID of UPCE1

Change CODE ID of CODE 128

Change CODE ID of CODE 39

Change CODE ID of CODE 93

Change CODE ID of CODE BAR

Change CODE ID of Interleaved 2 of 5

Change CODE ID of Industrial 25

Change CODE ID of Matrix 2 of 5

Change CODE ID of CODE 11

Change CODE ID of MSI

Change CODE ID of RSS

Change CODE ID of limited RSS

Change CODE ID of expended RSS

Change CODE ID of QR CODE

Change CODE ID of Data Matrix

Change CODE ID of limited PDF417

6.4 Tail

Open this function to help system quickly distinguish current decoding results.

Scan “Add tail” to open this function, if read success, there will be tail on the end of decode data.

Close tail

***Add tail “CR”**

Add tail “TAB”

Add tail “CRLF”

7 Bar code type enables/disable configuration

7.1 All types of bar code can be decoded

After scan “ Forbid read all bar code” , module will only support to scan setup code.

Support all

Forbid read all bar code

***Open default support types**

7.2 Enhancement of Reading Angle

***Forbid**

Allow

7.3 EAN13

***Allow reading EAN13**

Forbid reading EAN13

*** 2 bits extra-code Forbidden**

2 bits extra-code Allow

***5 bits extra-code Forbidden**

5 bits extra-code Allow

7.4 EAN8

***Allow reading EAN8**

Forbid reading EAN8

*** 2 bits extra-code Forbidden**

2 bits extra-code Allow

***5 bits extra-code Forbidden**

5 bits extra-code Allow

7.5 UPCA

***Allow reading UPCA**

Forbid reading UPCA

*** 2 bits extra-code Forbidden**

2 bits extra-code Allow

***5 bits extra-code Forbidden**

5 bits extra-code Allow

7.6 UPCE0

***Allow reading UPCE0**

Forbid reading UPCE0

7.7 UPCE1

***Allow reading UPCE1**

Forbid reading UPCE1

*** 2 bits extra-code Forbidden**

2 bits extra-code Allow

***5 bits extra-code Forbidden**

5 bits extra-code Allow

7.8 Code128

***Allow reading Code128**

Forbid reading Code128

Scan following code to change min length of code 128

Code128 min length at 0

***Code128min length at 4**

Scan following code to change max length of code 128

***Code128 max length at 32**

Code128 max length at 255

7.9 Code39

***Allow reading Code39**

Forbid reading Code39

Scan following code to change min length of code39

Code39 min length at 0

***Code39 min length at 4**

Scan following code to change max length of code39

***Code39 max length at 32**

Code39 max length at 255

Scan following code to configure whether Code39 supports Code32 mode and FullAsc mode

***Forbid Code32**

Allow Code32

***Forbid FullAsc Mode**

Allow FullAsc Mode

7.10 Code93

***Allow reading Code93**

Forbid reading Code93

Scan following code to change min length of code93

Code93 min length at 0

***Code93 min length at 4**

Scan following code to change max length of code93

***Code93max length at 32**

Code93max length at 255

7.11 CodeBar

***Allow reading CodeBar**

Forbid reading CodeBar

Scan following code to allow/forbid to send Start-stop operator

Send CodeBar Start-stop operator

***Not send CodeBar Start-stop operator**

Scan following code to change min length of CodeBar

CodeBar min length at 0

***CodeBarmin length at 4**

Scan following code to change min length of CodeBar

***CodeBar max length at 32**

CodeBar max length at 255

7.12 QR

***Allow reading QR**

Forbid reading QR

7.13 Interleaved 2 of 5

Allow reading Interleaved 2 of 5 **Default Forbid reading Interleaved 2 of 5**

Scan following code to set min length of Interleaved 2 of 5

Interleaved 2 of 5 min length at 0

Default Interleaved 2 of 5 min length at 4

Scan following code to set max length of Interleaved 2 of 5

***Interleaved 2 of 5 max length at 32**

Interleaved 2 of 5max length at 255

7.14 Industrial 25

Allow reading Industrial 25

***Forbid reading Industrial 25**

Scan following code to set min length of Interleaved 25

Industrial 25 min length at 0

***Industrial 25 min length at 4**

Scan following code to set max length of Interleaved 25

***Industrial 25 max length at 32**

Industrial 25 max length at 255

7.15 Matrix 2 of 5

Allow reading Matrix 2 of 5

***Forbid reading Matrix 2 of 5**

Scan following code to set min length of Matrix 2 of 5

Matrix 2 of 5 min length at 0

***Matrix 2 of 5 min length at 4**

Scan following code to set max length of Matrix 2 of 5

***Matrix 2 of 5 max length at 32**

Matrix 2 of 5max length at 255

Scan following code to set the validation format of Matrix 2 of 5

Matrix 2 of 5 validation format Mod10

***Matrix 2 of 5 validation format None**

7.16 Code11

Allow reading Code11

***Forbid reading Code11**

Scan following code to set min length of Code11

Code11 min length at 0

***Code11 min length at 4**

Scan following code to set max length of Code11

***Code11 max length at 32**

Code11 max length at 255

Scan following code to set the validation format of Code11

***Code11 use 1bit check**

Code11 use 2bit check

7.17 MSI

Allow reading MSI

***Forbid reading MSI**

Scan following code to set min length of MSI

MSI min length at 0

***MSI min length at 4**

Scan following code to set max length of MSI

***MSI max length at 32**

MSI max length at 255

7.18 RSS

Allow reading RSS-14

***Forbid reading RSS-14**

Allow reading limited RSS

***Forbid reading limited RSS**

Allow reading expended RSS

***Forbid reading expended RSS**

Scan following code to set min length of RSS

RSS min length at 0

***RSS min length at 4**

Scan following code to set max length of RSS

***RSS max length at 32**

RSS max length at 255

7.19 DM

Allow reading DM

***Forbid reading DM**

Scan following code to set whether the module supports decoding multiple DM barcodes simultaneously

***Forbid Read multiple DM barcodes simultaneously**

Allow Read multiple DM barcodes Simultaneously

7.20 PDF417

***Allow reading PDF417**

Forbid reading PDF417

8 Serial Port Instruction

Users can settle the module by sending instruction from mainframe.

Please make sure communicate parameter complete matching between module and mainframe.

Module default serial communicate parameter: Baud rate 9600bps; No check; 8 bit data; 1 bit stop bit; No flow control.

8.1 Write Zone Bit

Command Format:

Input: {Head1} {Types} {Lens} {Address} {Datas} {CRC}

PS: Head1: 0x7E 0x00（2 bytes）

Types: 0x08（1 byte）

Lens: 0x00//Set bit only can set one bit at a time, Prefix,suffix,CODE ID can be set multiple bits according to the actual situation;

Address: 0x0000~0xFFFF（2 bytes）, start location of write

Datas: 0x00~0xFF（1~256 bytes）, dates wrote in zone bit.

CRC: CRC_CCITT check value (2 bytes). Suitable for Types、Lens、Address、Datas;

Characteristic polynomial : X16+X12+X5+1, multinomial coefficient: 0x1021, original value:0 ;

For single byte, the highest bit will be calculated at first, output will be without negation.

The reference code of C is as follows:

```
unsigned int crc  cal  by  bit(unsigned char* ptr, unsigned int len)
{
unsigned int crc = 0;
while(len-- != 0)
{
for(unsigned char i = 0x80; i != 0; i /= 2)
{
crc *= 2;
if((crc&0x10000) !=0) //Last CRC *  2 ，if the first one is 1，so divide  0x11021
crc ^= 0x11021;
if((*ptr&i) != 0) //If the standard is 1，so CRC =    last CRC + standard CRC_CCITT
crc ^= 0x1021;
}
```

```
ptr++;
}
return crc;
}
```

Note: users can fill 0xAB 0xCD at CRC byte when CRC validation is not required.

Output: {Head2} {Types} {Lens} {Datas} {CRC}

1) Write successfully

PS: Head2：0x02 0x00

Types：0x00（write succeed）

Lens：0x01

Datas：0x00

CRC：CRC_CCITT check value（0x33 0x31）

2) CRC failed

No response command

3) Unknown command response

No response command

E.G.:

Write 0x3E in 0x000A of zone bit

1) Successfully set

Input ：0x7E 0x00 0x08 0x01 0x00 0x0A 0x3E 0x4C 0xCF

Output：0x02 0x00 0x00 0x01 0x00 0x33 0x31

2) CRC wrong

Input：0x7E 0x00 0x08 0x01 0x00 0x0A 0x3E 0x11 0x22

Output：None

3) When length of command to short or more than 400ms after 0x7e 0x00, treat as unknown command.

Input: 0x7E 0x00 0x08 0x01 0x00 0x0A 0x3E

Output: None

8.2 List of zone bit

Zone bit	*0x0000*
Data bit	Function
Bit 7	1：Open LED when successfully read 0：Close
Bit 6	1：Mute off 0：Mute on
Bit 5-4	00：No aim 01：Standard 10/11：always on
Bit 3-2	00：No light 01：Standard 10/11：Always on
Bit 1-0	00：Manual mode 01：Command mode 10：Continuous mode 11：Sensor mode
Zone bit	*0x0002*
Data bit	Function
Bit 7-0	Keep
Zone bit	*0x0003*
Data bit	Function
Bit 2	0: Turn off the scan code setting function 1: Turn on the scan code setting function If this feature is enabled, the settings must be set by sending commands from the serial port, and any setting of the QR code is invalid
Bit 1	1：Close Settlement Code 0：Open
Bit0	1：Output content of settlement code 0：Not output
Zone bit	*0x0005*
Data bit	Function
Bit 7-0	Read interval 100ms 0x00-0xFF：0.0-25.5s Default 200ms
Zone bit	*0x0006*
Data bit	Function

Bit 7-0	Time for single read 0x00-0xFF：0.0-25.5s Default 5s
Zone bit	*0x0007*
Data bit	Function
Bit 7	Auto sleep 1：On 0：Off
Zone bit	*0x0008*
Data bit	Function
Bit 7-0	Free time（low: Bit7-0） Unit: 100ms 0-25.5S Default:10s
Zone bit	*0x0009*
Data bit	Function
	If need to turn on,it needs to be recharged
Bit 1-0	Image rollovers 00：Forbid 01：Allow Default Forbid
Zone bit	*0x000B*
Data bit	Function
Bit 7-0	Time duration for successfully read sound 0x00-0xFF：0-255ms Default 20ms
Zone bit	*0x000C*
Data bit	Function
Bit 7-2	HID the interval after release;Interval =（Reg0x000C[7:2]）ms;Default 1ms
Bit 1	CapsLock Switch 0：On 1：Off Default Off
Bit0	Piezo Buzzer 0：high level when free, low level when busy 1：low level when free, high level when busy Default 1
Zone bit	*0x000D*
Data bit	Function
Bit 7-6	Keep

Bit 5-4	Input data encoding format 00：GBK 01：Keep 10：AUTO 11：UTF8
Bit 3-2	Output data encoding format 00：GBK 01：UNICODE 10：Keep 11：UTF8
Bit1-0	00：serial port output 01：USB PC Keyboard 10：Keep 11：USB virtual serial port
Zone bit	*0x000E*
Data bit	Function
Bit 4-5	
Bit3	Keep
Bit2	1：Decode successfully sound on 0：Decode successfully sound off
Bit1-0	00:buzzer passive low frequency 01:buzzer passive medium frequency 10:buzzer passive high frequency 11:buzzer active drive
Zone bit	*0x0013*
Data bit	Function
Bit7-0	Same barcode reading delay time（Unit：100ms） 0x00：The same bar code delay is not enabled 0x01-0xFE：0.1-25.4s； OXFF 2 minutes
Zone bit	*0x2A*
Data bit	Function
Bit 15-13	Keep
Bit 12-0	0x01：Serial rate: 1200 bps 0X02： Serial rate: 2400 bps 0x03：Serial rate: 4800 bps 0x04：Serial rate: 9600 bps 0x05：Serial rate: 14400 bps 0x06：Serial rate: 19200 bps 0x07：Serial rate: 38400 bps 0x08：Serial rate: 57600 bps 0x09：Serial rate: 115200bps
Zone bit	*0x002E*
Data bit	Function

Bit 7-1	Keep
Bit0	Read EAN13 0：Forbid 1：Allow
Zone bit	*0x002F*
Data bit	Function
Bit 7-1	Keep
Bit0	Read EAN8 0：Forbid 1: Allow
Zone bit	*0x0030*
Data bit	Function
Bit 7-1	Keep
Bit0	Read UPCA 0：Forbid 1：Allow
Zone bit	*0x0031*
Data bit	Function
Bit 7-1	Keep
Bit0	Read UPCE0 0：Forbid 1：Allow
Zone bit	*0x0032*
Data bit	Function
Bit 7-1	Keep
Bit0	Read UPCE1 0：Forbid 1：Allow
Zone bit	*0x0033*
Data bit	Function
Bit 7-1	Keep
Bit0	Read Code128 0：Forbid 1：Allow

Zone bit	*0x0034*
Data bit	Function
Bit 7-0	Min length of Code128 0x00-0xFF：0-255Byte
Zone bit	*0x0035*
Data bit	Function
Bit 7-0	Max length of Code128 0x00-0xFF：0-255Byte
Zone bit	*0x0036*
Data bit	Function
Bit 7-1	Keep
Bit0	Read Code39 0：Forbid 1：Allow
Zone bit	*0x0037*
Data bit	Function
Bit 7-0	Min length of Code39 0x00-0xFF：0-255Byte
Zone bit	*0x0038*
Data bit	Function
Bit 7-0	Max length of Code39 0x00-0xFF：0-255Byte
Zone bit	*0x0039*
Data bit	Function
Bit 7-1	Keep
Bit0	Read Code93 0：Forbid 1：Allow
Zone bit	*0x003A*
Data bit	Function
Bit 7-0	Min length of Code93 0x00-0xFF：0-255Byte

Zone bit	*0x003B*
Data bit	Function
Bit 7-0	Max length of Code93 0x00-0xFF：0-255Byte
Zone bit	*0x003C*
Data bit	Function
Bit 7-2	Keep
Bit1	
Bit0	Read CodeBar 0：Forbid 1：Allow
Zone bit	*0x003D*
Data bit	Function
Bit 7-0	Min length of CodeBar 0x00-0xFF：0-255Byte
Zone bit	*0x003E*
Data bit	Function
Bit 7-0	Max length of CodeBar 0x00-0xFF：0-255Byte
Zone bit	*0x003F*
Data bit	Function
Bit 7-1	Keep
Bit0	Read QR 0：forbid 1：allow
Zone bit	*0x0040*
Data bit	Function
Bit 7-1	Keep
Bit0	Read Interleaved 2 of 5 0：Forbid 1：Allow
Zone bit	*0x0041*

Data bit	Function
Bit 7-0	Min length of Interleaved 2 of 5 0x00-0xFF：0-255Byte
Zone bit	*0x0042*
Data bit	Function
Bit 7-0	Max length of Interleaved 2 of 5 0x00-0xFF：0-255Byte
Zone bit	*0x0043*
Data bit	Function
Bit 7-1	Keep
Bit0	Read Industrial 25 0：forbid 1：Allow
Zone bit	*0x0044*
Data bit	Function
Bit 7-0	Min length of Industrial 25 0x00-0xFF：0-255Byte
Zone bit	*0x0045*
Data bit	Function
Bit 7-0	Max length of Industrial 25 0x00-0xFF：0-255Byte
Zone bit	*0x0046*
Data bit	Function
Bit 7-1	Keep
Bit0	Read Matrix 2 of 5 0：forbid 1：Allow
Zone bit	*0x0047*
Data bit	Function
Bit 7-0	Min length of Matrix 2 of 5 0x00-0xFF：0-255Byte
Zone bit	*0x0048*

Data bit	Function
Bit 7-0	Max length of Matrix 2 of 5 0x00-0xFF：0-255Byte
Zone bit	*0x0049*
Data bit	Function
Bit 7-1	Keep
Bit0	Read Code11 0：Forbid 1：Allow
Zone bit	*0x004A*
Data bit	Function
Bit 7-0	Min length of Code11 0x00-0xFF：0-255Byte
Zone bit	*0x004B*
Data bit	Function
Bit 7-0	Max length of Code11 0x00-0xFF：0-255Byte
Zone bit	*0x004C*
Data bit	Function
Bit 7-1	Keep
Bit0	Read MSI 0：Forbid 1：Allow
Zone bit	*0x004D*
Data bit	Function
Bit 7-0	Min length of MSI 0x00-0xFF：0-255Byte
Zone bit	*0x004E*
Data bit	Function
Bit 7-0	Max length of MSI 0x00-0xFF：0-255Byte
Zone bit	*0x004F*

Data bit	Function
Bit 7-1	Keep
Bit0	Read RSS-14 0：Forbid 1：Allow
Zone bit	*0x0050*
Data bit	Function
Bit 7-1	Keep
Bit0	Read limited RSS 0：Forbid 1：Allow
Zone bit	*0x0051*
Data bit	Function
Bit 7-1	Keep
Bit0	Read Expended RSS 0：Forbid 1：Allow
Zone bit	*0x0052*
Data bit	Function
Bit 7-0	Min length of RSS 0x00-0xFF：0-255Byte
Zone bit	*0x0053*
Data bit	Function
Bit 7-0	Max length of RSS 0x00-0xFF：0-255Byte
Zone bit	*0x0054*
Data bit	Function
Bit 7-1	Keep
Bit0	Read DM 0：Forbid 1：Allow
Zone bit	*0x0055*

Data bit	Function
Bit 7-1	Keep
Bit0	Read PDF417 0：Forbid 1：Allow
Zone bit	*0x0060*
Data bit	Function
Bit6-5	Type of Tailed 00：CR(0x0D) 01：CRLF(0x0D,0x0A) 10：TAB(0x09) 11：None
Bit3	1：Allow add prefix 0：Forbid
Bit2	1：Allow add Code ID 0：Forbid
Bit1	1：Allow add suffix 0：Forbid
Bit0	1：Allow add tail 0：Forbid
Zone bit	*0x0061*
Data bit	Function
Bit 7-0	Keyboard Settlement 00：US 02：France 03：Germany 06：Japan 07：Spain
Zone bit	*0x0063 Set Prefix*
	For example: 7E 00 08 02(data length+1) 00 63(address) 31 32 00(31 32 is prefix value,00 is end value) AB CD(check value)
	Note: 0x00 represents the end of input For example, 7E 00 08 05 00 63 31 32 33 00 34 AB CD actually only inputs 31 32 33 three values 00 is means the end of input and the following values are discarded The maximum length of data is 15 bits, beyond 15 bits, only the first 15 bits are taken
Zone bit	*0x0072 Set Suffix*
	For example: 7E 00 08 02(data length+1) 00 72(address) 31 32 00(31 32 is prefix value,00 is end value) AB CD(check value)
Zone bit	*0x0091 – 0x00A4*

Data bit	Function
Bit 7-0	Code ID settlement 0x41-0x5a & 0x61-0x7a （A-Z,a-z）Code ID as appendix B
Zone bit	*0x00D9*
Data bit	Function
Bit 7-0	Function Zone bit 0x50：reset to defaults

9 Appendix A：Common serial port instruction

Parameter		Default Setting	Note
Communication interface			
TTL-232	Baud rate	9600	
	Verification	No	
	Bata Bit	8 bit	
	Stop Bit	1 bit	
	CTSRTS	No	

10 Appendix B：Code ID List

Type of Bar Code	Corresponding character	Zone bit address
EAN-13	d	0x91
EAN-8	d	0x92
UPC-A	c	0x93
UPC-E0	c	0x94
UPC-E1	c	0x95
Code 128	j	0x96
Code 39	b	0x97
Code 93	i	0x98
Codabar	a	0x99
Interleaved 2 of 5	e	0x9A
Industrial 2 of 5	D	0x9B
Matrix 2 of 5	v	0x9C
Code 11	H	0x9D
MSI-Plessey	m	0x9E
GS1 Databar(RSS-14)	R	0x9F
GS1 Databar Limited(RSS)	R	0xA0
GS1 Databar Expanded(RSS)	R	0xA1
QR Code	Q	0xA2
Data Matrix	u	0xA3
PDF 417	r	0xA4

11 Appendix C：ASCII

Base 16 Hexadecimal	Decimalism	Character
00	0	NUL
01	1	SOH
02	2	STX
03	3	ETX
04	4	EOT
05	5	ENQ
06	6	ACK
07	7	BEL
08	8	BS
09	9	HT
0a	10	LF
0b	11	VT
0c	12	FF
0d	13	CR
0e	14	SO
0f	15	SI
10	16	DLE
11	17	DC1
12	18	DC2
13	19	DC3
14	20	DC4
15	21	NAK
16	22	SYN
17	23	ETB
18	24	CAN
19	25	EM
1a	26	SUB
1b	27	ESC

Base 16	Decimalism	Character
1c	28	FS
1d	29	GS
1e	30	RS
1f	31	US
20	32	SP
21	33	!
22	34	"
23	35	#
24	36	$
25	37	%
26	38	&
27	39	`
28	40	(
29	41	)
2a	42	*
2b	43	+
2c	44	,
2d	45	-
2e	46	.
2f	47	/
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	:

Base 16	Decimalism	Character
3b	59	;
3c	60	<
3d	61	=
3e	62	>
3f	63	?
40	64	@
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
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

Base 16	Decimalism	Character
5a	90	Z
5b	91	[
5c	92	\
5d	93	]
5e	94	^
5f	95	_
60	96	'
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
75	117	u
76	118	v
77	119	w
78	120	x

Base 16	Decimalism	Character
79	121	y
7a	122	z
7b	123	{
7c	124	|
7d	125	}
7e	126	~
7f	127	DEL

12 Appendix D：Data code

0 ~ 9

0

1

2

3

4

5

6

7

8

9

A – F

A

B

C

D

E

F

13 Appendix E：Save or Cancel

After reading the data code, you need to scan the "save" setting code to save the data which you read.If there is an error when reading the data code, you can cancel the error reading.

For example, read a set code,and read data "A", "B", "C" and "D" in turn.

If you read "cancel the last read bit", the last read digit "D" will be cancelled.

If you read "cancel the previous read a string of data" will cancel the read data "ABCD",

If you read "cancel modification Settings", you will cancel the data "ABCD" and exit the modification Settings.

Save

Cancel the last read bit

Cancel the previous read a string of data

Cancel modification settings