



# **GM78 Global Multi-code Bar Code Reader Module User Manual**



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# 1 Introduction of Module

## 1.1 Introduction

GM78 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.

GM78 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.

GM78 works stable in dark and large temperature range.

The GM78 has the following features:

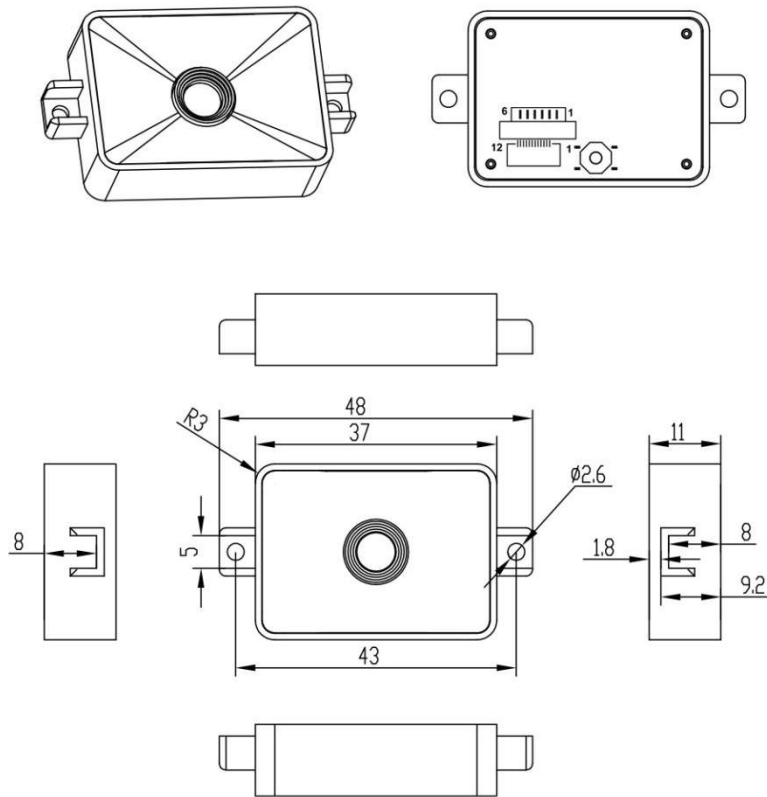
- (1) High-precision small code reading (1D: 3mil, 2D: 5mil)
- (2) High speed reading
- (3) High-contrast reading ( $\geq 15\%$ )
- (4) Can read 6 codes at the same time



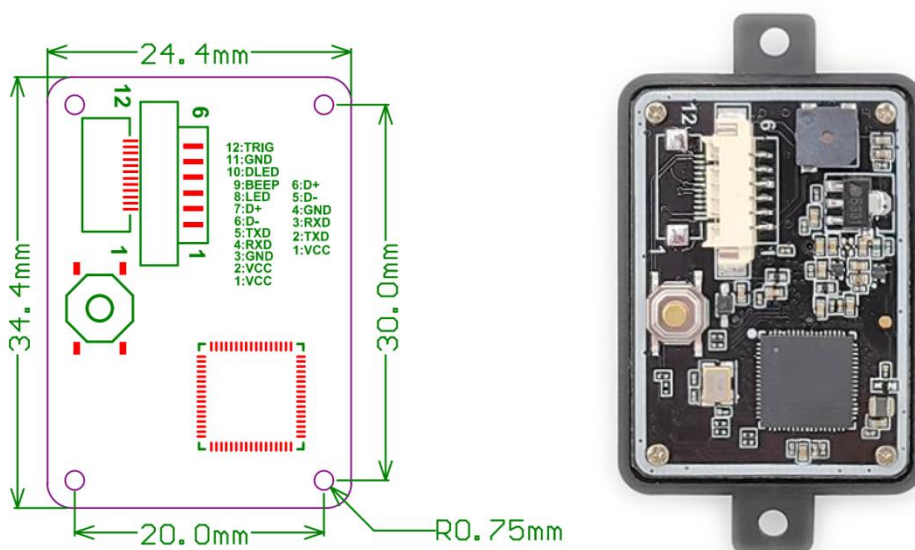
## 1.2 Technical Specification

Scanning Performance	Scan Mode	640*480 CMOS		
	Lighting	White LED		
	Ambient light	Soft White LED		
	Read Code Type	2D	QR Code, Data Matrix, PDF417, Aztec, Micro QR, Micro PDF417	
		1D	EAN, UPC, Code 39, Code 93, Code 128, UCC/EAN 128, Codabar,	
			Interleaved 2 of 5, ITF-6, ITF-14, ISBN, ISSN, MSI-Plessey	
			GS1 Databar, Code 11, Industrial 25, Standard 25, Plessey, Matrix 2 of 5	
	Accuracy of reading	≥4mil		
	Depth of Field	EAN-13	50mm-200mm	(13mil)
		Code 39	40mm-90mm	(5mil 10 bytes)
		QR Code	25mm-200mm	(20mil 16 bytes)
		Data Marix	50mm-90mm	(10mil 20 bytes)
		PDF417	30mm-130mm	(6.67mil 7 bytes)
Contrast	≥25%			
Scanning angle	Intersection angle 360°, Elevation ± 55° Deflection angle ± 55°			
Viewing Angle	Horizontal: 47° Vertical: 36°			
Mechanical/ Electrical Parameters	Interface	TTL-232, USB (HID-KBW, Virtual serial port)		
	Dimension	48(W)*27.5(D)*14(H)mm		
	Operating Voltage	DC 5 V		
	Operating Current	180mA		
	Standby Current	USB: 50mA; TTL: 10mA		
Environmental Parameters	Operating Temperature	-20°C ~ +50°C		
	Storage Temperature	-40°C ~ +70°C		
	Operating Humidity	5% ~ 95% (Non-Condensing)		
	Environmental Light	0 ~ 100000 LUX		

### 1.3 Product Dimension (mm)



### 1.4 Circuit Board Dimension



## 1.5 Circuit Board Communication Interface

### Interface Size: MX1.25\*6pin

Pin	Name	Definition	Description
1	VCC	Power Input	Power input 5V
2	TXD	Out	Data output. TTL 3.3V logical level
3	RXD	In	Data input. TTL 3.3V logical level
4	GND	-	Signal ground
5	D-	In	USB data input
6	D+	Out	USB data output

### Interface Description:

- a) The default baud rate of the UART is 9600bps. Data bit:8, Stop bit:1, No parity bit.
- b) If the upper computer is an MCU (3.3V), it is directly connected to TX and RX; If the upper computer is a PC, it needs to be connected RS232 level conversion chip.

### ◆Reserved Interface: Interface size: 0.5mm\*12pin

PIN	Input/Output	Definition	Introductions
PIN 1	Power	VCC	Dangling or connected to low voltage, do not connect to high voltage
PIN 2	Power	VCC	Input+3.3V. Lower than 3.1V-engine reset
PIN 3	Ground	GND	-
PIN 4	Input	RXD	Serial port receiver signal
PIN 5	Output	TXD	Serial port send signal
PIN 6	Input	D-	USB : D-singal
PIN 7	Output	D+	USB : D+singal
PIN 8	-	LED	Lighting
PIN 9	Output	BEEPER	sfn output, low level when free
PIN10	Output	DLED	Decoding success light
PIN11	Ground	GND	-
PIN12	Input	TRIG	Weak Pull-up. Low level trigger engine decoding

## 1.6 Readable Barcode Type

Type	Readable	Default
CODE 128	✓	✓
EAN/UCC 128/GS1 128	✓	✓
EAN 8	✓	✓
EAN 13	✓	✓
ISSN	✓	x
ISBN	✓	x
UPC-E	✓	✓
UPC-A	✓	✓
ITF 25	✓	✓
MATRIX 25	✓	x
IND 25	✓	x
STD 25	✓	x
Code 39	✓	✓
Codebar	✓	x
Code 93	✓	✓
Code 11	✓	x
MSI PLSEYY	✓	x
GS1 DATABAR/RSS	✓	x
COMPSITE	✓	x
TELEPEN	✓	x
HONG KONG 2 of 5/ CHINA POST	✓	x
PDF417	✓	✓
QR	✓	✓
DATA MATRIX/DM	✓	✓
AZTEC CODE	✓	x
MAXI CODE	✓	x
HAN XIN	✓	x

## 2 Factory Mode Information

### 2.1 Setting Code Instruction

This manual includes code settings, function settings (lighting, keyboard type, factory reset, etc.) and interface settings.

If you need to change the function you need, scan the following setting code, **all with (\*) indicates the factory default**.

### 2.2 Read Version Information



Read Version Information

### 2.3 Setting Code Switch

By enabling the setting code function, you can scan the setting code to configure the parameters of the module.

Note: When modifying the configuration through the setting code, the entire list of zone bits will be saved to the memory, that is, the configuration configured through the serial port but not saved will also be saved.



Setting code off



\*Setting code on

#### 2.3.1 Setting Code Switch(Send by Serial Command-Hexadecimal)

Through the serial port, send the serial command to enable or disable the setting code function.

This command needs to be sent by serial port hexadecimal.

**Disable setting code command:**

**Send:**99 DD 01 0E 00 00 00 09 00 42

**Return:** 99 DD 00 01 00 00 00 09 00 4C



**Enable setting code command:****Send:** 99 DD 01 0E 00 00 00 09 01 43      **Return:**99 DD 00 01 00 00 00 09 00 4C

Note: It have to sent through the serial port. If need to use this function, the serial port must be enabled. After send the disable command, can not enable the function by scan the 2.3 “Setting code on” code, have to send the enable command to open the function.

## 2.4 Setup Code Content Output

**\*Forbid****Allow**

## 2.5 User Default Settings

In addition to factory settings, users also can save their frequently used configurations as default Settings. By scanning Save “Current Settings as User Default Settings”, users can save the current device configurations as default settings. If the module already has default user settings, the new configuration replaces the original default user settings.

By scanning "Restore the user default settings", the module can be switched to user default settings.

**Save Current Settings as User Default Settings****Restore the User Default Settings**

## 2.6 Reset

**Reset**

### 3 Communication Interface

Module can be set to dual interface input and output at the same time, the factory default is **serial port and USB HID-KBW** output at the same time. If only use a single interface, you can scan the corresponding setting code directly.



\*Serial port+USB HID-KBW



Serial port and USB CDC



Serial port+USB HID POS

#### 3.1 USB HID-KBW



USB HID-KBW

##### 3.1.1 Keyboard Settlement



\*United States



Belgium



Brazil



Canada



Czech Republic



Denmark



Finland



France



Austria/Germany



Greece



Hungary



Israel



Italy



Latin America



Netherlands



Norway



Poland



Portugal



Romania



Russia



Slovakia



Spain



Sweden



Switzerland



Turkey F



Turkey Q



UK



Japan

### 3.1.2 Keyboard Type

After enabling the virtual keyboard, you can output the correct data in any keyboard language mode.  
When using virtual keyboard, you must make sure the keypad number keys are valid.



**\*Standard keyboard**



**Virtual keyboard**

### 3.1.3 Letter Case Conversion

Example: If the barcode is ab123dE, if scan the "convert to uppercase" bar code, the output is AB123DE; if scan the "convert to lowercase" bar code, the output is abc123de. Default: Keyboard case is not converted.



**\*Keyboard case is not converted**



**All uppercase**



**All lowercase**



**Case reversal**

### 3.1.4 Character Transmission Interval

We can improve compatibility and reduce the probability of data loss by setting the transfer interval between keyboard characters. Interval range: 0 to 65535ms. Default value: 5ms.

a) Scan "Character Transmission Interval" Setting code



**Character Transmission Interval**

- b) Scan “Digital Setting Code”. E.G. Time is 10ms,scan “1”,”0”; Time is 100ms,scan “1”,”0”,”0”.
- c) Scan “Confirm” setting code, finish setting.



**Confirm**

**3.1.5 Character Transmission Interval Quick Setting**



**0ms**



**\*5ms**



**10ms**



**20ms**



**30ms**



**50ms**

**3.1.6 Control Character Output Mode**

Control character (0x00-0x20) output mode selection in ASCII code.

Output function keys: control characters are used as custom function keys. See appendix E for specific functions.

Output Ctrl combination key: Ctrl combination key to output control characters. See appendix E for specific functions.

Output ALT +Number key: Supports full control character output in Chinese environment. See appendix E for specific functions.



**\* Output function key**



**Output Ctrl combination key**



**Output ALT+ Number key**

### 3.2 USB COM



USB COM

### 3.3 Serial Port

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 port related configuration: Baud rate:9600, Data bit:8, Parity Bit: No, Stop bit:1.**

(The serial communication interface is TTL level signal (TTL-232), which can be adapted to most system architectures. If the system needs to use RS-232, it is necessary to add an external conversion circuit.)



TTL 232 Interface

#### 3.3.1 Baud rate



600



1200



2400



4800



\*9600



14400



19200



38400



57600



115200

### 3.3.2 Parity Bit



\*No parity



Odd number



Even number

### 3.3.3 Stop Bit



\*1 bit stop bit



2 bit stop bit

### 3.3.4 Data Bit



5 bit



6 bit



7 bit



\*8 bit

### 3.4 HID POS



HID POS



## 4 Character Set

### 4.1 Character Set Input



\*Auto



GBK



UTF8



ASCII



Japanese

### 4.2 Character Set Output



\*Raw format



GBK



UTF8

## 5 Read Mode

### 5.1 Common Read Mode

#### 5.1.1 Button Holding Mode

Set to button holding mode, press the button to trigger reading, and release the button to end reading. If the reading is successful or the reading time exceeds the single reading time, the reading will be finished.



**Manual Mode- Button Holding**

#### 5.1.2 Single Button Trigger Mode

Set to single button trigger mode, press the button to start reading, release the button, read will not stop. If the reading is successful or the reading time exceeds the single reading time, the reading will be finished.



**Manual Mode- Button Trigger**

#### 5.1.3 Continuous Mode

On this mode, reading module read code continuous and automatic. Read successfully or the reading time exceeds the single reading time, the reading will be finished, and automatically trigger the next reading.



**Continuous Mode**

### 5.1.4 Induction Mode

In automatic induction mode, the reading engine detects the brightness of the surrounding environment. When the brightness changes, module will begin to read, read successfully or the reading time exceeds the single reading time, the reading will be finished. Regardless of the last read success or failure, the module will be redetects the brightness of the surrounding environment. **Default is induction mode.**



**\*Induction Mode**

#### 5.1.4.1 Sensitivity Rating Setting

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.



**\*High Sensitivity**



**Medium Sensitivity**



**Low Sensitivity**

#### 5.1.4.2 Image Stabilization Time Setting

Image stabilization time: the time cost after module find scene change then waiting for the scene stable. Image stabilization time setting range: 0-65535ms Default: 300ms.

a) Scan "Image Stabilization Time" Setting code:



**Image Stabilization Time**

b) Scan "Digital Setting Code". E.G. Time is 100ms, scan "1","0","0"; Time is 1005ms, scan "1","0","0","5"

c) Scan "Confirm" setting code, finish setting.



Confirm

### 5.1.4.3 Image Stabilization Time Quick Setting



100ms



200ms



\*300ms



400ms



500ms



1000ms

### 5.1.5 Trigger Mode

The reading module can be triggered by the command, and the reading can be actively ended by the command. Read successfully or the reading time exceeds the single reading time, the reading will be finished. **Refer to Appendix D for specific trigger command.**

Start decoding: >!200000.>;99

Stop decoding: >!200001.>;99

Device reset: >!200002.>;99

Note: Trigger and finish command are valid in any mode.

## 5.2 Single Scan Time

Single scan time range: 0-65535ms. Default: 5000ms.

### 5.2.1 Single Scan Time Setting

a) Scan "Single Scan Time" setting code.



**Single Scan Time**

- b) Scan “Digital Setting Code”. E.G. Time is 100ms,scan “1”,”0”,”0”;Time is 1005ms,scan “1”,”0”,”0”,”5”
- c) Scan “Confirm” setting code, finish setting.



**Confirm**

### 5.2.2 Single Scan Time Quick Setting



**0ms(Infinite)**



**1000ms**



**2000ms**



**3000ms**



**\*5000ms**



**10000ms**

### 5.3 Same Code Read

In order to avoid the same bar code being read multiple times in continuous mode and induction mode, the reading module can be required to read the same bar code after the delay time. It means, after reading a bar code, refuse to read the same code for a set period of time. Only after a set period of time, it can be able to read and output. Same code read range: 0-65535ms. Default: 0ms.

#### 5.3.1 Time Interval For The Same Code Read

- a) Scan “Time Interval For The Same Code Read” setting code



**Time Interval For The Same Code Read**

b) Scan “Digital Setting Code”. E.G. Time is 100ms,scan “1”,”0”,”0”;Time is 1005ms,scan “1”,”0”,”0”,”5”

c) Scan “Confirm” setting code, finish setting.



**Confirm**

**5.3.2 Time Interval For The Same Code Read Quick Setting**



**\*0ms**



**100ms**



**300ms**



**500ms**



**1000ms**



**3000ms**

**5.4 Break Time Settlement**

Time between two read. Mainly used in continuous mode.

Range: 0-65535ms. Default: 500ms

**5.4.1 Break Time Settlement Setting**

a) Scan “Break Time Settlement” Setting code.



**Break Time Settlement**

- b) Scan “Digital Setting Code”. E.G. Time is 100ms,scan “1”,”0”,”0”;Time is 1005ms,scan “1”,”0”,”0”,”5”
- c) Scan “Confirm” setting code, finish setting.



**Confirm**

**5.4.2 Break Time Settlement Quick Setting**



**0ms**



**\*500ms**



**1000ms**



**2000ms**



**5000ms**



**10000ms**

**5.5 Power Supply Control**

**5.5.1 Sleep Mode**

This parameter determines the power mode of the module. In sleep mode, the reader module goes to sleep as much as possible (can be awakened by the wake up command)



**\*Sleep Mode**

### 5.5.2 Continuous Working Mode

In continuous working mode, the reading module remains awake after each decoding attempt.



**Continuous Working Mode**



## 6 Lighting and Ambient light

### 6.1 Lighting

Head lamp is used to additional lighting when read.



**\*The light turn on only when read**  
**(Default)**



**Always off**



**Always on**

### 6.2 Ambient light(Soft)



**\*The light turn on only when read**  
**(Default)**



**Always off**



**Always on**

Note: If need to turn off all lights,need to scan the “Always off” setting code of lighting and ambient light at the same time.

## 7 Prompts

### 7.1 Prompt Tone

#### 7.1.1 Buzzer Type



\*Passive Buzzer



Active Buzzer

#### 7.1.2 Volume Level



Silence



Low



Middle



\*High

#### 7.1.3 Starting Up Prompt Tone



Forbid



\*Allow

#### 7.1.4 Setting Code Prompt Tone



Forbid



\*Allow

#### 7.1.5 Decoding Prompt Tone



Forbid



\*Allow

#### 7.1.6 Decoding Prompt Tone Frequency

The user's buzzer resonance frequency may be different from the default frequency.

You can adjust the frequency of the prompt tone by reading the following setting code. The default is 2700Hz.

a) Scan "Buzzer Frequency" setting code



Buzzer Frequency

b) Scan "Digital Setting Code". E.G. Frequency is 1500Hz, scan "1", "5", "0", "0"; Frequency is 2700Hz, scan "2", "7", "0", "0".

c) Scan "Confirm" setting code, finish setting.



Confirm

### 7.1.7 Decoding Prompt Tone Quick Setting



1000Hz



1500Hz



2000Hz



2500Hz



\*2700Hz



3000Hz



3500Hz

### 7.1.8 Decoding Prompt Tone Duration

Default: 50ms.

a) Scan "Prompt Tone Duration" setting code



**Prompt Tone Duration**

b) Scan "Digital Setting Code". E.G. Time is 50ms,scan "5","0";Time is 200ms,scan "2","0","0"

c) Scan "Confirm" setting code, finish setting.



**Confirm**

### 7.1.9 Decoding Prompt Tone Duration Quick Setting



30ms



\*50ms



70ms



100ms



200ms



300ms

## 7.2 Prompt Light(Blue LED)

### 7.2.1 Prompt Light Type



\*Decoding Prompt



Power Supply Prompt

### 7.2.2 Decoding Successful Prompt Light



Forbid



\*Allow

#### 7.2.2.1 Decoding Successful Prompt Light Control Mode

Mode 0: When power on, the light is off. When decoding successfully, the light turn on. After specified time,the light turn off.

Mode 1: When power on, the light is on. When decoding successfully, the light turn off. After specified time,the light turn on.



Mode 0



Mode 1

### 7.3 Decode Status NR Output

NR means NO Read.

Before releasing the trigger button, if the barcode cannot be decoded within the timeout period, the "NR" message is allowed to be output;

When this function is disabled, even if the barcode cannot be decoded, no message can be output to the host.



\*Forbid



Allow

## 8 Data Edition

### 8.1 CODE ID

#### 8.1.1 AIM ID

AIM is Automatic Identification Manufacturers. AIM ID defines identification codes for various standard bar codes (users cannot customize AIM ID). For specific definitions, see Appendix C: AIM ID List. After decoding, the scanner can add this identification code to the bar code data, the format is "]" + letter" C "+ digit" 0 ". For example, the AIM ID of Code 128 is "]C0 ".



**\*Forbid**



**Allow**

#### 8.1.2 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. Pls see the Appendix B.



**\*Forbid**



**Allow**

### 8.2 Tail

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



**Forbid**



**CR LF**



**\*CR**



TAB



CR CR

## 8.3 Prefix

### 8.3.1 Prefix Switch

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

Scan “Allow” to allow adding prefix. Scan “Forbid” to forbid adding prefix.



\*Forbid



Allow

### 8.3.2 Prefix Setting

Prefix setting can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

#### **Method 1: Add prefix setting code content format: >!010800XX.**

XX is the setting variable; XX is represented in hexadecimal; Two characters are one unit; Any deficiency is filled with 0; Can be stacked arbitrarily; Supports a maximum of 10 data prefixes.

E.G.: To set the prefix character A, check Appendix E. The hexadecimal value is 41, so the setting code content is >!01080041.

E.G.: To set the prefix character A B C, check Appendix E. The hexadecimal value is 41 42 43, so the setting code content is >!010800414243.

#### **Method 2:**

a) Scan “Prefix setting” setting code



**Prefix Setting**

b) Scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: To set the prefix character A, check Appendix E. The hexadecimal value is 41, so scan the “4””1” in Appendix A “Digital Setting Code”.

E.G.: To set the prefix character A B C, check Appendix E. The hexadecimal value is 41 42 43, so scan the “4””1” “4””2”“4””3” in Appendix A “Digital Setting Code”.

c) Scan “Confirm” setting code, finish setting.

**Confirm**

## 8.4 Add Suffix

### 8.4.1 Suffix Switch

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

Scan “Allow” to allow adding suffix. Scan “Forbid” to forbid adding suffix.

**\*Forbid****Allow**

### 8.4.2 Suffix Setting

Suffix setting can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Add suffix setting code content format: >!010801XX.**

XX is the setting variable; XX is represented in hexadecimal; Two characters are one unit; Any deficiency is filled with 0; Can be stacked arbitrarily; Supports a maximum of 10 data suffixes.

E.G.: To set the suffix character A, check Appendix E. The hexadecimal value is 41, so the setting code content is **>!01080141**.

E.G.: To set the suffix character A B C, check Appendix E. The hexadecimal value is 41 42 43, so the setting code content is **>!010801414243**.

**Method 2:**

a) Scan “Suffix setting” setting code



**Suffix Setting**

b) Scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: To set the suffix character A, check Appendix E. The hexadecimal value is 41, so scan the “4”1” in Appendix A “Digital Setting Code”.

E.G.: To set the suffix character A B C, check Appendix E. The hexadecimal value is 41 42 43, so scan the “4”1” “4”2” “4”3” in Appendix A “Digital Setting Code”.

c) Scan “Confirm” setting code, finish setting.



**Confirm**

## 8.5 Based on the Bar code Type to Add Prefix

### 8.5.1 Based on the Bar code Type to Add Prefix Switch

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

Scan “Allow” to allow adding prefix. Scan “Forbid” to forbid adding prefix.



**\*Forbid**



**Allow**

## 8.5.2 Based on the Bar code Type to Add Prefix Setting

Prefix setting can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Based on the bar code type to add prefix setting code content format: >!010806XXXX.**

XXXX is the setting variable; The first two XX indicate the bar code type, and the relevant hexadecimal values can be found according to Appendix F. The last two XX is represented in hexadecimal; Two characters are one unit; Any deficiency is filled with 0; Can be stacked arbitrarily; Supports a maximum of 10 data prefixes.

E.G.: To set the CODE128,prefix character A: check Appendix F, the hexadecimal value of CODE128 is 01; check Appendix E,the hexadecimal value of character A is 41, so the setting code content is **>!0108060141.**

E.G.: To set the CODE128,prefix character A B C: check Appendix F, the hexadecimal value of CODE128 is 01; check Appendix E,the hexadecimal value of A B C is 41 42 43, so the setting code content is **>!01080601414243.**

### Method 2:

a) Scan “Prefix setting” setting code



**Prefix Setting**

b) Setting the bar code type, scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: To set the prefix for CODE128, check Appendix F.The hexadecimal value of CODE128 is 01,so scan the “0””1” in Appendix A “Digital Setting Code”.

c) Setting prefix content, scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: To set the prefix character A, check Appendix E.The hexadecimal value is 41,so scan the “4””1” in Appendix A “Digital Setting Code”.

d) Scan “Confirm” setting code,finish setting.



**Confirm**

### 8.5.3 Based on the Bar code Type to Delete Prefix

Delete prefix that have been set. Delete prefix setting can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Based on the bar code type to delete prefix setting code content format: >!010808XX.**

XX is the setting variable; XX is represented in hexadecimal; Two characters are one unit; Any deficiency is filled with 0; The relevant hexadecimal values can be found according to Appendix F.

E.G.: To delete the prefix of CODE128, check Appendix F. The hexadecimal value of CODE128 is 01, so the setting code content is **>!01080801.**

**Method 2:**

a) Scan “Delete Prefix” setting code



**Delete Prefix**

b) Delete bar code type, Scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: To delete the prefix of CODE128, check Appendix F. The hexadecimal value of CODE128 is 01,so scan the “0””1” in Appendix A “Digital Setting Code”.

c) Scan “Confirm” setting code,finish setting.



**Confirm**

## 8.6 Based on the Bar code Type to Add Suffix

### 8.6.1 Based on the Bar code Type to Add Suffix Switch

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

Scan “Allow” to allow adding suffix. Scan “Forbid” to forbid adding suffix.



\*Forbid



Allow

### 8.6.2 Based on the Bar code Type to Add Suffix Setting

Suffix setting can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Based on the bar code type to add suffix setting code content format: >!010807XXXX.**

XXXX is the setting variable; The first two XX indicate the bar code type, and the relevant hexadecimal values can be found according to Appendix F. The last two XX is represented in hexadecimal; Two characters are one unit; Any deficiency is filled with 0; Can be stacked arbitrarily; Supports a maximum of 10 data prefixes.

E.G.: To set the CODE128,suffix character A: check Appendix F, the hexadecimal value of CODE128 is 01; check Appendix E,the hexadecimal value of character A is 41, so the setting code content is **>!0108070141.**

E.G.: To set the CODE128,suffix character A B C: check Appendix F, the hexadecimal value of CODE128 is 01; check Appendix E,the hexadecimal value of A B C is 41 42 43, so the setting code content is **>!01080701414243.**

**Method 2:**

a) Scan “Suffix setting” setting code



**Suffix Setting**

- b) Setting the bar code type, scan Appendix A “Digital Setting Code” one by one, two in one group.  
E.G.: To set the suffix for CODE128, check Appendix F. The hexadecimal value of CODE128 is 01, so scan the “0””1” in Appendix A “Digital Setting Code”.
- c) Setting suffix content, scan Appendix A “Digital Setting Code” one by one, two in one group.  
E.G.: To set the suffix character A, check Appendix E. The hexadecimal value is 41, so scan the “4””1” in Appendix A “Digital Setting Code”.
- d) Scan “Confirm” setting code, finish setting.



**Confirm**

**8.6.3 Based on the Bar code Type to Delete Suffix**

Delete suffix that have been set. Delete suffix setting can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Based on the bar code type to delete suffix setting code content format: >!010809XX.**

XX is the setting variable; XX is represented in hexadecimal; Two characters are one unit; Any deficiency is filled with 0; The relevant hexadecimal values can be found according to Appendix F.

E.G.: To delete the suffix of CODE128, check Appendix F. The hexadecimal value of CODE128 is 01, so the setting code content is **>!01080901.**

**Method 2:**

- a) Scan “Delete Suffix” setting code



**Delete Suffix**

- b) Delete bar code type, Scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: To delete the suffix of CODE128, check Appendix F. The hexadecimal value of CODE128 is 01,so scan the “0””1” in Appendix A “Digital Setting Code”.

c) Scan “Confirm” setting code,finish setting.



**Confirm**

## 8.7 Hidden Fixed Characters

This function can be based on demand,hide characters that the user does not need to output.

### 8.7.1 Hide Fixed Characters Switch



**\*Forbid**



**Allow**

### 8.7.2 Hide Fixed Characters Setting

Hide fixed characters can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Hide fixed characters setting code content format: >!010802XX.**

XX is the setting variable; XX is represented in hexadecimal; Two characters are one unit; Any deficiency is filled with 0; Can be stacked arbitrarily; Supports a maximum of 20 data.

E.G.: To hidden character A: check Appendix E,the hexadecimal value of character A is 41, so the setting code content is **>!01080241.**

E.G.: To hidden character A B C: check Appendix E,the hexadecimal value of character A B C is 41 42 43, so the setting code content is **>!010802414243.**

**Method 2:**

a) Scan “Hide Fixed Characters” setting code



**Hide Fixed Characters**

b) Scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: To hidden character A, check Appendix E. The hexadecimal value of character A is 41,so scan the “4”1” in Appendix A “Digital Setting Code”.

E.G.: To hidden LF, check Appendix E. The hexadecimal value of LF is 0A,so scan the “0”A” in Appendix A “Digital Setting Code”.

c) Scan “Confirm” setting code,finish setting.



**Confirm**

## 8.8 Based on Length to Keep Bar Code Data

This function can be based on demand,keep the data required by the user in the bar code.

### 8.8.1 Keep Bar Code Data Switch



**\*Forbid**



**Forward Index**



**Inverted Index**

Note: Forward Index(The data front end is the start position)

Inverted Index(The data back end is the start position)

### 8.8.2 Keep the Data Start Position

Start position can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more



content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Start position setting code content format: >!00102AXX.**

XX is the setting variable; Decimal range is 1-65535

E.G.: Start position set to 11: so the setting code content is >!00102A11.

**Method 2:**

a) Scan “Start Position” setting code



**Start Position**

b) Scan Appendix A “Digital Setting Code” ,start from which number, scan the corresponding data code.

E.G.: 11<sup>th</sup> position, scan “1””1”; 100<sup>th</sup> position, scan “1””0””0”.

c) Scan “Confirm” setting code,finish setting.



**Confirm**

### 8.8.3 Keep the Data End Position

End position can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: End position setting code content format: >!00102BXX.**

XX is the setting variable; Decimal range is 1-65535

E.G.: End position set to 50: so the setting code content is >!00102B50.

**Method 2:**

a) Scan “End Position” setting code



**End Position**

b) Scan Appendix A “Digital Setting Code” ,end from which number, scan the corresponding data code.

E.G.: 50<sup>th</sup> position, scan “5””0”.

c) Scan “Confirm” setting code,finish setting.



**Confirm**

## 8.9 Based on Length to Hide Bar Code Data

This function can be based on demand,hide the data is not required by the user in the bar code.

### 8.9.1 Hide Bar Code Data Switch



**\*Forbid**



**Forward Index**



**Inverted Index**

Note: Forward Index(The data front end is the start position)

Inverted Index(The data back end is the start position)

### 8.9.2 Hide Bar Code Data Start Position

Start position can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Start position setting code content format: >!001027XX.**

XX is the setting variable; Decimal range is 1-65535

E.G.: Start position set to 11: so the setting code content is **>!00102711.**

**Method 2:**

- a) Scan “Start Position” setting code



**Start Position**

- b) Scan Appendix A “Digital Setting Code” ,start from which number, scan the corresponding data code.

E.G.: 11<sup>th</sup> position, scan “1””1”; 100<sup>th</sup> position, scan “1””0””0”.

- c) Scan “Confirm” setting code,finish setting.



**Confirm**

### 8.9.3 Hide Bar Code Data End Position

End position can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: End position setting code content format: >!001028XX.**

XX is the setting variable; Decimal range is 1-65535

E.G.: End position set to 50: so the setting code content is **>!00102850.**

**Method 2:**

- a) Scan “End Position” setting code



**End Position**

- b) Scan Appendix A “Digital Setting Code” ,end from which number, scan the corresponding data code.  
E.G.: 11<sup>th</sup> position, scan “1””1”; 100<sup>th</sup> position, scan “1””0””0”.
- c) Scan “Confirm” setting code,finish setting.



**Confirm**

**8.10 Based on Bar Code Type Hide Bar Code of Any Length**

This function can be based on demand,hide unnecessary data in the bar code based on the bar code type.

**8.10.1 Based on Bar Code Type Hide Bar Code Data Switch**



**\*Forbid**



**Forward Index**



**Inverted Index**

Note: Forward Index(The data front end is the start position)

Inverted Index(The data back end is the start position)

**8.10.2 Based on Bar Code Type Hide Data Start Position**

Start position can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Hide the start position of the data based on the bar code type content format: >!01080AXXXX.**

XXXX is the setting variable; The first two XX indicate the bar code type, and the relevant hexadecimal values can be found according to Appendix F. The last two XX is represented in hexadecimal; Two characters are one unit; Any deficiency is filled with 0; Length range:0x0000-0xFFFF.

E.G.: Hide CODE128 start position set to 11: check Appendix F. The hexadecimal value of CODE128 is 01, The hexadecimal value of 11 is 0B,so the setting code content is **>!01080A010B**.

### Method 2:

a) Scan “Bar Code Type&Start Position” setting code



**Bar Code Type&Start Position**

b) Setting the bar code type, scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: To hidden the CODE128, check Appendix F.The hexadecimal value of CODE128 is 01,so scan the “0””1” in Appendix A “Digital Setting Code”.

c) Setting start position, scan Appendix A “Digital Setting Code” one by one, two in one group.

This is for hexadecimal.

E.G.: 11<sup>th</sup> position, the hexadecimal value is 0B,scan “0””B”; 100<sup>th</sup> position, the hexadecimal value is 64,scan “6””4”.

d) Scan “Confirm” setting code,finish setting.



**Confirm**

### 8.10.3 Based on Bar Code Type Hide Data End Position

End position can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Hide the end position of the data based on the bar code type content format: >!01080BXXXX.**

XXXX is the setting variable; The first two XX indicate the bar code type, and the relevant hexadecimal values can be found according to Appendix F. The last two XX is represented in hexadecimal; Two characters are one unit; Any deficiency is filled with 0; Length range:0x0000-0xFFFF.

E.G.: Hide CODE128 end position set to 100: check Appendix F. The hexadecimal value of CODE128 is 01, The hexadecimal value of 100 is 64,so the setting code content is **>!01080B0164**.

### Method 2:

a) Scan “Bar Code Type&End Position” setting code



**Bar Code Type&End Position**

b) Setting the bar code type, scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: To hidden the CODE128, check Appendix F.The hexadecimal value of CODE128 is 01,so scan the “0””1” in Appendix A “Digital Setting Code”.

c) Setting end position, scan Appendix A “Digital Setting Code” one by one, two in one group.

This is for hexadecimal.

E.G.: 11<sup>th</sup> position, the hexadecimal value is 0B,scan “0””B”; 100<sup>th</sup> position, the hexadecimal value is 64,scan “6””4”.

d) Scan “Confirm” setting code,finish setting.



**Confirm**

## 8.11 Insert Custom Characters

This function can be based on demand,insert user-defined data anywhere in the bar code data.

### 8.11.1 Insert Custom Characters



**\*Forbid**



**Allow**

### 8.11.2 Custom Data

Custom Data can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Custom insert data setting code content format: >!010803XX.**

XX is the setting variable; XX is represented in hexadecimal; Two characters are one unit; Any deficiency is filled with 0; Can be stacked arbitrarily; Supports a maximum of 20 data.

E.G.: To insert custom data A: check Appendix E, the hexadecimal value of character A is 41, so the setting code content is **>!01080341**.

E.G.: To insert custom A B C: check Appendix E, the hexadecimal value of character A B C is 41 42 43, so the setting code content is **>!010803414243**.

**Method 2:**

a) Scan “Custom Data” setting code



**Custom Data**

b) Scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: To insert custom data A, check Appendix E. The hexadecimal value of character A is 41, so scan the “4”1” in Appendix A “Digital Setting Code”.

E.G.: To insert custom data A B C, check Appendix E. The hexadecimal value of A B C is 41 42 43, so scan the “4”1”4”2”4”3” in Appendix A “Digital Setting Code”.

c) Scan “Confirm” setting code, finish setting.



**Confirm**

### 8.11.3 Insert Position

Insert position can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Insert position setting code content format: >!00102EXX.**

XX is the setting variable; Decimal range is 1-65535

E.G.: insert position set to 11: so the setting code content is >!00102E11.

**Method 2:**

a) Scan “Insert Position” setting code



**Insert Position**

b) Scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: 11<sup>th</sup> position, scan “1””1”; 100<sup>th</sup> position,scan “1””0””0”.

c) Scan “Confirm” setting code,finish setting.



**Confirm**

## 8.12 Character Replacement

This function can be based on demand,use any data to replace the data in the original string.

### 8.12.1 Character Replacement



**\*Forbid**



**Allow**



## 8.12.2 Replaced Character Setting

Replaced character setting can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

### **Method 1: Replaced character setting code content format: >!010804XX.**

XX is the setting variable; XX is represented in hexadecimal; Two characters are one unit; Any deficiency is filled with 0; Can be stacked arbitrarily; Supports a maximum of 20 data.

E.G.: To insert custom data A: check Appendix E, the hexadecimal value of character A is 41, so the setting code content is **>!01080441**.

E.G.: To insert custom A B C: check Appendix E, the hexadecimal value of character A B C is 41 42 43, so the setting code content is **>!010804414243**.

### **Method 2:**

a) Scan “Replaced Character” setting code



**Replaced Character**

b) Scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: To replaced character A, check Appendix E. The hexadecimal value of character A is 41,so scan the “4””1” in Appendix A “Digital Setting Code”.

E.G.: To replaced character LF, check Appendix E. The hexadecimal value of LF is 0A,so scan the “0””A” in Appendix A “Digital Setting Code”.

c) Scan “Confirm” setting code,finish setting.



**Confirm**

### 8.12.3 Replacement Character Setting

Replacement character setting can be done in two ways.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: Replacement character setting code content format: >!010805XX.**

XX is the setting variable; XX is represented in hexadecimal; Two characters are one unit; Any deficiency is filled with 0; Can be stacked arbitrarily; Supports a maximum of 20 data.

E.G.: Character A replace the original data: check Appendix E, the hexadecimal value of character A is 41, so the setting code content is >!01080541.

E.G.: Character A B C replace the original data: check Appendix E, the hexadecimal value of character A B C is 41 42 43, so the setting code content is >!010805414243.

**Method 2:**

a) Scan “Replacement Character” setting code



**Replacement Character**

b) Scan Appendix A “Digital Setting Code” one by one, two in one group.

E.G.: Character A replace the original data, check Appendix E. The hexadecimal value of character A is 41, so scan the “4””1” in Appendix A “Digital Setting Code”.

E.G.: Character LF replace the original data, check Appendix E. The hexadecimal value of LF is 0A, so scan the “0””A” in Appendix A “Digital Setting Code”.

c) Scan “Confirm” setting code, finish setting.



**Confirm**

### 8.13 LF to Enter

Line feed(LF) (\n) and carriage return,line feed(CRLF) (\r\n) are converted to carriage return(CR) (\r).



\*Forbid



Allow

### 8.14 URL Switch

This function can be based on demand, prohibit the identification of bar codes with website information.



\*Allow



Forbid

### 8.15 Invoice Function(China Invoice Only)

In order to use this module in the invoicing system normally, the user can convert the invoice code format and output it by scanning the following configuration code.

[Note] This function supports Alipay qr code invoicing, not support wechat qr code invoicing.

#### 8.15.1 Invoice Function



\*Forbid



Allow

### 8.15.2 Invoice Type



**\*Special invoice**



**Ordinary invoice**

### 8.16 GSI Rule



**\*Forbid**



**Allow**

## 9 Serial Port Instruction

Instructions only can be sent through the serial port. If the serial port function is disabled, the module cannot receive and execute instructions.

### 9.1 Format

Instruction composition: The instructions use ASCII strings and are composed as follows:

Setting Code	Instruction Type	Check:Default use "99"
--------------	------------------	------------------------

Instruction Type:

Instruction Type	Instruction
Permanent setting instruction	Setting code+">;99"
Temporary setting instruction	Setting code+"^;99"
Query instruction	Setting code+"?;99"
Return instruction correct	Setting code+"\$;99"
Return instruction error	Setting code+"*;99"

E.G.: Set the end character to CR LF, setting code is **>!0010201.**

Function	Send	Correct return	Error return	Note
Setting instruction	>!0010201.>;99	>!0010201.\$;99	>!0010201.*;99	
Query instruction	>!0010201.?;99	>!001020X.\$;99	>!0010201.*;99	X means queried value

E.G.: Query and set the lighting,setting code is **>!001015X.** X: 0 Normal lighting 1 No lighting 2

Always on

Function	Send	Correct return	Note
Set lighting to Always on	>!0010152.>;99	>!0010152.\$;99	
Query the lighting status instruction	>!0010150.?;99	>!0010152.\$;99	>!0010152 means lighting always on

## 9.2 ACK

When this option is selected, the reader module expects a response from the host after sending the data. The reader module also can send a acknowledgment message to the host.



**Forbid**



**\*Allow**

## 10 Packet Format

### Decoded Data

Identifier	Status	Type	Length	Code Type	Data	Check
0x99 0xDD		0x06				

### Description

Name	Size	Instruction
Identifier	2 bytes	Fixed 0x99,0xDD
Status	1 byte	bit0:Permanent change bit1:Repeat send bit2:Instruction tone
Type	1 byte	The type of instruction 0x06
Type	4 bytes	High byte before (low address), low byte after (high address), does not contain the check bit
Code Type	1 byte	Check Appendix F
Data	Changeable	Decoded data
Check	1 byte	XOR or Check: Perform the XOR or operation from the first digit 0x99 to the end of data bit

If ACK is enabled, the host must reply ACK to the scanner after receiving the decoded data command. Otherwise, the scanner will send the decoded data command repeatedly (Resend twice, sending three times in total, with an interval of 1000ms).

After this function is enabled, decoded data is sent in packet format.



\*Forbid



Allow

## 11 Bar Code Global Operation

### 11.1 Global Switch



\*Forbid



Allow

### 11.2 1D Code Global Switch



\*Forbid



Allow

Note: CODE32 needs to be opened and closed separately.

### 11.3 2D Code Global Switch



\*Forbid



Allow

### 11.4 1D Code (Bar Code) Security Level

In order to solve the problem of bar code reading error in extreme cases, five security levels are provided here, and the higher the level, the worse the reading experience.



Level 0



\*Level 1



Level 2



Level 3



Level 4



## 11.5 Multi-code Reading

In special application scenarios, multiple bar codes need to be read at a time. If the following setting codes are read, multi-code reading is enabled or disabled.

### 11.5.1 Must Read Multi-code



**\*Forbid**



**Allow**

### 11.5.2 Read the Number of Multi-code



**\*One**



**Two**



**Three**



**Four**



**Five**



**Six**

## 11.6 Global Reverse Color Switch

Reading the following setting code will enable/disable reading.

Note: The global reverse color switch will have a greater impact on the performance of the reading device, and the common bar code has a separate reverse color switch, it is recommended to open it separately. When setting reverse color, keep the serial port on.



**\*Forbid**



**Allow**

## 11.7 Partial Reverse Color Switch

### 11.7.1 CODE128 Reverse Color Switch



\*Forbid



Allow

### 11.7.2 EAN/UPC Reverse Color Switch



\*Forbid



Allow

### 11.7.3 ITF25 Reverse Color Switch



\*Forbid



Allow

### 11.7.4 CODE39 Reverse Color Switch



\*Forbid



Allow

### 11.7.5 CODEBAR Reverse Color Switch



**\*Forbid**



**Allow**

### 11.7.6 CODE93 Reverse Color Switch



**\*Forbid**



**Allow**

## 12 Bar code Type Enable/Disable Configuration

### 12.1 CODE128

#### 12.1.1 CODE128 Switch



Forbid



\*Allow

#### 12.1.2 CODE128 Min Length

The CODE128 min length is 0. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: CODE128 min length setting code content format: >!000012XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: CODE128 min length set to 2: so the setting code content is >!0000122.

E.G.: CODE128 min length set to 12: so the setting code content is >!00001212.

**Method 2:**

a) Scan "CODE128 Min Length" setting code



CODE128 Min Length

b) Scan Appendix A "Digital Setting Code" one by one.

E.G.: Min length 2 , scan the "2" in Appendix A "Digital Setting Code"

E.G.: Min length 12 , scan the "1" "2" in Appendix A "Digital Setting Code"

c) Scan "Confirm" setting code, finish setting.



**Confirm**

### 12.1.3 CODE128 Max Length

The CODE128 default max length is 255. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: CODE128 max length setting code content format: >!000013XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: CODE128 max length set to 9: so the setting code content is >!0000129.

E.G.: CODE128 max length set to 20: so the setting code content is >!00001220.

**Method 2:**

a) Scan “CODE128 Max Length” setting code



**CODE128 Max Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 9 , scan the “9” in Appendix A “Digital Setting Code”

E.G.: Min length 20 , scan the “2”“0” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code,finish setting.



**Confirm**

## 12.2 EAN/UCC 128/GS1 128

### 12.2.1 GS1 128 Switch



Forbid



\*Allow

### 12.2.2 GS1 128 Min Length

The GS1 128 min length is 0. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: GS1 128 min length setting code content format: >!000022XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: GS1 128 min length set to 2: so the setting code content is >!0000222.

E.G.: GS1 128 min length set to 12: so the setting code content is >!00002212.

**Method 2:**

a) Scan “GS1 128 Min Length” setting code



GS1 128 Min Length

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 2 , scan the “2” in Appendix A “Digital Setting Code”

E.G.: Min length 12 , scan the “1”“2” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code, finish setting.



**Confirm****12.2.3 GS1 128 Max Length**

The GS1 128 default max length is 255. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: GS1 128 max length setting code content format: >!000023XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: GS1 128 max length set to 9: so the setting code content is >!0000239.

E.G.: GS1 128 max length set to 20: so the setting code content is >!00002320.

**Method 2:**

a) Scan “GS1 128 Max Length” setting code

**GS1 128 Max Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 9 , scan the “9” in Appendix A “Digital Setting Code”

E.G.: Min length 20 , scan the “2”“0” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code, finish setting.

**Confirm**

## 12.3 EAN8

### 12.3.1 EAN8 Switch



Forbid



\*Allow

### 12.3.2 EAN8 Check Bit Transmission



Forbid



\*Allow

### 12.3.3 EAN8 Read 2 Bits Extra-code



\*Forbid



Allow

### 12.3.4 EAN8 Read 5 Bits Extra-code



\*Forbid



Allow

### 12.3.5 Read Only EAN8 with Extra-code



\*Forbid



Allow



## 12.4 EAN13

### 12.4.1 EAN13 Switch



Forbid



\*Allow

### 12.4.2 EAN13 Check Bit Transmission



Forbid



\*Allow

### 12.4.3 EAN13 Read 2 Bits Extra-code



\*Forbid



Allow

### 12.4.4 EAN13 Read 5 Bits Extra-code



\*Forbid



Allow

### 11.4.5 Read Only EAN13 with Extra-code



\*Forbid



Allow

## 12.5 ISSN

Note: If ISSN is disabled, the ISSN will be treated as EAN13



**\*Forbid**



**Allow**

## 12.6 ISBN

Note: If ISBN is disabled, the ISBN will be treated as EAN13



**\*Forbid**



**Allow**

## 12.7 UPC-E

### 12.7.1 UPC-E Switch



**Forbid**



**\*Allow**

### 12.7.2 UPC-E Check Bit Transmission



**Forbid**



**\*Allow**

### 12.7.3 UPC-E Read 2 Bits Extra-code



\*Forbid



Allow

### 12.7.4 UPC-E Read 5 Bits Extra-code



\*Forbid



Allow

### 12.7.5 Read Only UPC-E with Extra-code



\*Forbid



Allow

### 12.7.6 Transmission System Character "0"



Forbid



\*Allow

### 12.7.7 UPC-E Converted to UPC-A



\*Forbid



Allow

### 12.7.8 UPC-E1



\*Forbid



Allow

### 12.7.9 Transmission Country Character "0"



\*Forbid



Allow

## 12.8 UPC-A

### 12.8.1 UPC-A Switch



Forbid



\*Allow

### 12.8.2 UPC-A Check Bit Transmission



Forbid



\*Allow

### 12.8.3 UPC-A Read 2 Bits Extra-code



**\*Forbid**



**Allow**

#### 12.8.4 UPC-A Read 5 Bits Extra-code



**\*Forbid**



**Allow**

#### 12.8.5 Read Only UPC-A with Extra-code



**\*Forbid**



**Allow**

#### 12.8.6 Transmission System Character "0"



**Forbid**



**\*Allow**

#### 12.8.7 Transmission Country Character "0"

Set whether UPC-A is converted to EAN13



**\*Forbid**



**Allow**

## 12.9 ITF25

### 12.9.1 ITF25 Switch



Forbid



\*Allow

### 12.9.2 ITF25 Check Bit Verification



\*Forbid



Allow

### 12.9.3 ITF25 Check Bit Transmission



\*Forbid



Allow

### 12.9.4 ITF25 Min Length

The ITF25 min length is 4. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: ITF25 min length setting code content format: >!0000B3XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: ITF25 min length set to 2: so the setting code content is >!0000B32.

E.G.: ITF25 min length set to 12: so the setting code content is **>!0000B312.**

**Method 2:**

- a) Scan “ITF25 Min Length” setting code



**ITF25 Min Length**

- b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 2 , scan the “2” in Appendix A “Digital Setting Code”

E.G.: Min length 12 , scan the “1”“2” in Appendix A “Digital Setting Code”

- c) Scan “Confirm” setting code, finish setting.



**Confirm**

### 12.9.5 ITF25 Max Length

The ITF25 default max length is 255. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: ITF25 max length setting code content format: >!0000B4XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: ITF25 max length set to 9: so the setting code content is **>!0000B49.**

E.G.: ITF25 max length set to 20: so the setting code content is **>!0000B420.**

**Method 2:**

- a) Scan “ITF25 Max Length” setting code



### ITF25 Max Length

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 9 , scan the “9” in Appendix A “Digital Setting Code”

E.G.: Min length 20 , scan the “2”“0” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code,finish setting.



Confirm

### 12.9.6 Brazilian Government/Bank code



\*Forbid



Allow

### 12.10 MATRIX25

#### 12.10.1 MATRIX25 Switch



\*Forbid



Allow

#### 12.10.2 MATRIX25 Check Bit Verification



\*Forbid



Allow



### 12.10.3 MATRIX25 Check Bit Transmission

Note: To enable the transmission check bit, pls enable the check bit verification function first



**\*Forbid**



**Allow**

### 12.10.4 MATRIX25 Min Length

The MATRIX25 min length is 4. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: MATRIX25 min length setting code content format: >!000113XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: MATRIX25 min length set to 2: so the setting code content is >!0001132.

E.G.: MATRIX25 min length set to 12: so the setting code content is >!00011312.

**Method 2:**

a) Scan “MATRIX25 Min Length” setting code



**MATRIX25 Min Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 2 , scan the “2” in Appendix A “Digital Setting Code”

E.G.: Min length 12 , scan the “1”“2” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code,finish setting.



**Confirm**

### 12.10.5 MATRIX25 Max Length

The MATRIX25 default max length is 255. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: MATRIX25 max length setting code content format: >!000114XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: MATRIX25 max length set to 9: so the setting code content is >!0001149.

E.G.: MATRIX25 max length set to 20: so the setting code content is >!00011420.

**Method 2:**

a) Scan “MATRIX25 Max Length” setting code



**MATRIX25 Max Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 9 , scan the “9” in Appendix A “Digital Setting Code”

E.G.: Min length 20 , scan the “2”“0” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code, finish setting.



**Confirm**

## 12.11 IND25

### 12.11.1 IND25 Switch



\*Forbid



Allow

### 12.11.2 IND25 Min Length

The IND25 min length is 4. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: IND25 min length setting code content format: >!000123XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: IND25 min length set to 2: so the setting code content is >!0001232.

E.G.: IND25 min length set to 12: so the setting code content is >!00012312.

**Method 2:**

a) Scan "IND25 Min Length" setting code



IND25 Min Length

b) Scan Appendix A "Digital Setting Code" one by one.

E.G.: Min length 2 , scan the "2" in Appendix A "Digital Setting Code"

E.G.: Min length 12 , scan the "1" "2" in Appendix A "Digital Setting Code"

c) Scan "Confirm" setting code, finish setting.



**Confirm**

**12.11.3 IND25 Max Length**

The IND25 default max length is 255. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: IND25 max length setting code content format: >!000124XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: IND25 max length set to 9: so the setting code content is >!0001249.

E.G.: IND25 max length set to 20: so the setting code content is >!00012420.

**Method 2:**

a) Scan “IND25 Max Length” setting code



**IND25 Max Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 9 , scan the “9” in Appendix A “Digital Setting Code”

E.G.: Min length 20 , scan the “2”“0” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code, finish setting.



**Confirm**

## 12.12 STD25

### 12.12.1 STD25 Switch



\*Forbid



Allow

### 12.12.2 STD25 Min Length

The STD25 min length is 4. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: STD25 min length setting code content format: >!000133XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: STD25 min length set to 2: so the setting code content is >!0001332.

E.G.: STD25 min length set to 12: so the setting code content is >!00013312.

**Method 2:**

a) Scan “STD25 Min Length” setting code



STD25 Min Length

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 2 , scan the “2” in Appendix A “Digital Setting Code”

E.G.: Min length 12 , scan the “1”“2” in Appendix A Digital Setting Code”

c) Scan “Confirm” setting code,finish setting.



**Confirm****12.12.3 STD25 Max Length**

The STD25 default max length is 255. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: STD25 max length setting code content format: >!000134XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: STD25 max length set to 9: so the setting code content is **>!0001349.**

E.G.: STD25 max length set to 20: so the setting code content is **>!00013420.**

**Method 2:**

a) Scan “STD25 Max Length” setting code

**STD25 Max Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 9 , scan the “9” in Appendix A “Digital Setting Code”

E.G.: Min length 20 , scan the “2”“0” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code, finish setting.

**Confirm**

## 12.13 CODE39

### 12.13.1 CODE39 Switch



Forbid



\*Allow

### 12.13.2 CODE39 Check Bit Verification



\*Forbid



Allow

### 12.13.3 CODE39 Check Bit Transmission

Note: To enable the transmission check bit, pls enable the check bit verification function first



\*Forbid



Allow

### 12.13.4 CODE39 Start/End Character Transmission



\*Forbid



Allow

### 12.13.5 CODE39 FULL ASCII



**\*Forbid**



**Allow**

### 12.13.6 CODE39 Min Length

The CODE39 min length is 0. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: CODE39 min length setting code content format: >!000145XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: CODE39 min length set to 2: so the setting code content is **>!0001452.**

E.G.: CODE39 min length set to 12: so the setting code content is **>!00014512.**

**Method 2:**

a) Scan “CODE39 Min Length” setting code



**CODE39 Min Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 2 , scan the “2” in Appendix A “Digital Setting Code”

E.G.: Min length 12 , scan the “1”“2” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code,finish setting.



**Confirm**



### 12.13.7 CODE39 Max Length

The CODE39 default max length is 255. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: CODE39 max length setting code content format: >!000146XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: CODE39 max length set to 9: so the setting code content is >!0001469.

E.G.: CODE39 max length set to 20: so the setting code content is >!00014620.

**Method 2:**

a) Scan "CODE39 Max Length" setting code



**CODE39 Max Length**

b) Scan Appendix A "Digital Setting Code" one by one.

E.G.: Min length 9 , scan the "9" in Appendix A "Digital Setting Code"

E.G.: Min length 20 , scan the "2" "0" in Appendix A "Digital Setting Code"

c) Scan "Confirm" setting code, finish setting.



**Confirm**

### 12.13.8 CODE32

Read the following setting code to enable/disable CODE39 to CODE32.



**\*Forbid**



**Allow**

### 12.13.9 CODE32 Prefix



\*Forbid



Allow

### 12.13.10 CODE32 Check Bit Verification



\*Forbid



Allow

### 12.13.11 CODE32 Check Bit Transmission

Note: To enable the transmission check bit, pls enable the check bit verification function first



\*Forbid



Allow

## 12.14 CODEBAR

### 12.14.1 CODEBAR Switch



\*Forbid



Allow

### 12.14.2 CODEBAR Check Bit Verification



**\*Forbid**



**Allow**

### 12.14.3 CODEBAR Check Bit Transmission

Note: To enable the transmission check bit, pls enable the check bit verification function first



**\*Forbid**



**Allow**

### 12.14.4 CODEBAR Start/End Character Transmission



**Forbid**



**\*Allow**

### 12.14.5 CODEBAR Start/End Character Format



**\*Normal ABCD Format**



**ABCD/TN\*E Format**

### 12.14.6 CODEBAR Start/End Character Case



**\*Upper Case**



**Lower Case**

### 12.14.7 CODEBAR Min Length

The CODEBAR min length is 2. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: CODEBAR min length setting code content format: >!000156XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: CODEBAR min length set to 2: so the setting code content is **>!0001562.**

E.G.: CODEBAR min length set to 12: so the setting code content is **>!00015612.**

**Method 2:**

a) Scan “CODEBAR Min Length” setting code



**CODEBAR Min Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 2 , scan the “2” in Appendix A “Digital Setting Code”

E.G.: Min length 12 , scan the “1”“2” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code, finish setting.



**Confirm**

### 12.14.8 CODEBAR Max Length

The CODEBAR default max length is 255. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: CODEBAR max length setting code content format: >!000157XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: CODEBAR max length set to 9: so the setting code content is **>!0001579.**

E.G.: CODEBAR max length set to 20: so the setting code content is **>!00015720.**

**Method 2:**

a) Scan "CODEBAR Max Length" setting code



**CODEBAR Max Length**

b) Scan Appendix A "Digital Setting Code" one by one.

E.G.: Min length 9 , scan the "9" in Appendix A "Digital Setting Code"

E.G.: Min length 20 , scan the "2" "0" in Appendix A "Digital Setting Code"

c) Scan "Confirm" setting code, finish setting.



**Confirm**

## 12.15 CODE93

### 12.15.1 CODE93 Switch



**Forbid**



**\*Allow**

### 12.15.2 CODE93 Min Length

The CODE93 min length is 0. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more

content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: CODE93 min length setting code content format: >!000163XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: CODE93 min length set to 2: so the setting code content is >!0001632.

E.G.: CODE93 min length set to 12: so the setting code content is >!00016312.

**Method 2:**

a) Scan “CODE93 Min Length” setting code



**CODE93 Min Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 2 , scan the “2” in Appendix A “Data Code”

E.G.: Min length 12 , scan the “1”“2” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code, finish setting.



**Confirm**

### **12.15.3 CODE93 Max Length**

The CODE93 default max length is 255. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: CODE93 max length setting code content format: >!000164XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: CODE93 max length set to 9: so the setting code content is >!0001649.

E.G.: CODE93 max length set to 20: so the setting code content is >!00016420.

**Method 2:**

a) Scan “CODE93 Max Length” setting code



**CODE93 Max Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 9 , scan the “9” in Appendix A “Digital Setting Code”

E.G.: Min length 20 , scan the “2”“0” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code,finish setting.



**Confirm**

## 12.16 CODE11

### 12.16.1 CODE11 Switch



**\*Forbid**



**Allow**

### 12.16.2 CODE11 Check Bit Verification



**\*No Check**



**1 Bit Check**



**2 Bit Check**

### 12.16.3 CODE11 Check Bit Transmission

Note: To enable the transmission check bit, pls enable the check bit verification function first



**\*Forbid**



**Allow**

### 12.16.4 CODE11 Min Length

The CODE11 min length is 4. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: CODE11 min length setting code content format: >!000173XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: CODE11 min length set to 2: so the setting code content is >!0001732.

E.G.: CODE11 min length set to 12: so the setting code content is >!00017312.

**Method 2:**

a) Scan “CODE11 Min Length” setting code



**CODE11 Min Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 2 , scan the “2” in Appendix A “Digital Setting Code”

E.G.: Min length 12 , scan the “1”“2” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code,finish setting.



**Confirm**



### 12.16.5 CODE11 Max Length

The CODE11 default max length is 255. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: CODE11 max length setting code content format: >!000174XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: CODE11 max length set to 9: so the setting code content is >!0001749.

E.G.: CODE11 max length set to 20: so the setting code content is >!00017420.

**Method 2:**

a) Scan “CODE11 Max Length” setting code



**CODE11 Max Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 9 , scan the “9” in Appendix A “Digital Setting Code”

E.G.: Min length 20 , scan the “2”“0” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code,finish setting.



**Confirm**

## 12.17 MSI PLSEYY

### 12.17.1 MSI PLSEYY Switch



**\*Forbid**

**Allow**

**12.17.2 MSI PLSEEEY Check Bit Verification**



**\*MOD10 Single Character Check**



**MOD10/MOD10  
Double-character Check**



**MOD10/MOD11  
Double-character Check**

**12.17.3 MSI PLSEEEY Check Bit Transmission**

Note: To enable the transmission check bit, pls enable the check bit verification function first



**\*Forbid**



**Allow**

**12.17.4 MSI PLSEEEY Min Length**

The MSI PLSEEEY min length is 6. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: MSI PLSEEEY min length setting code content format: >!000193XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: MSI PLSEEEY min length set to 2: so the setting code content is >!0001932.

E.G.: MSI PLSEEEY min length set to 12: so the setting code content is >!00019312.

**Method 2:**

a) Scan “MSI PLSEEEY Min Length” setting code



**MSI PLSEEEY Min Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 2 , scan the “2” in Appendix A “Digital Setting Code”

E.G.: Min length 12 , scan the “1”“2” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code,finish setting.



**Confirm**

**12.17.5 MSI PLSEEEY Max Length**

The MSI PLSEEEY default max length is 255. There are two ways to set up.

Method 1: Users can generate their own setting code, suitable for users who need to set more content, more flexible use;

Method 2: Scan the setting code in this manual according to the procedure.

**Method 1: MSI PLSEEEY max length setting code content format: >!000194XX.**

XX is the setting variable; Decimal range is 0-255

E.G.: MSI PLSEEEY max length set to 9: so the setting code content is >!0001949.

E.G.: MSI PLSEEEY max length set to 20: so the setting code content is >!00019420.

**Method 2:**

a) Scan “MSI PLSEEEY Max Length” setting code



**MSI PLSEEEY Max Length**

b) Scan Appendix A “Digital Setting Code” one by one.

E.G.: Min length 9 , scan the “9” in Appendix A “Digital Setting Code”

E.G.: Min length 20 , scan the “2”“0” in Appendix A “Digital Setting Code”

c) Scan “Confirm” setting code, finish setting.



Confirm

### 12.18 GS1 DATABAR/RSS



\*Forbid



Allow

### 12.19 COMPSITE



\*Forbid



Allow

### 12.20 TELEPEN



\*Forbid



Allow

### 12.21 HONG KONG 2 of 5/CHINA POST



\*Forbid



Allow

## 12.22 PDF417

### 12.22.1 PDF417 Switch



**Forbid**



**\*Allow**

### 12.22.2 PDF417 Forward and Reverse Recognition

When setting forward or reverse, keep the serial port enabled.



**\*Only Read Forward**



**Only Read Reverse**



**Can Read Forward and Reverse**

## 12.23 QR

### 12.23.1 QR Switch



**Forbid**



**\*Allow**

### 12.23.2 QR Forward and Reverse Recognition

When setting forward or reverse, keep the serial port enabled.



**\*Only Read Forward**



**Only Read Reverse**



**Can Read Forward and Reverse**



**Only Read Forward(Reversed code)**

## 12.24 DATA MATRIX/DM

### 12.24.1 DM Switch



**Forbid**



**\*Allow**

### 12.24.2 DM Forward and Reverse Recognition

When setting forward or reverse, keep the serial port enabled.



**\*Only Read Forward**



**Only Read Reverse**



**Can Read Forward and Reverse**

## 12.25 AZTEC CODE



**\*Forbid**



**Allow**

## 12.26 MAXI CODE



\*Forbid



Allow

## 12.27 HAN XIN

### 12.27.1 HAN XIN Switch



\*Forbid



Allow

### 12.27.2 HAN XIN Code ECI Control

Reading the following setup code, whether the HAN XIN code outputs ECI to setting



\*Forbid



Allow

## Appendix A: Digital Setting Code



0



1



2



3



4



5



6



7



8



9



A



B



C



D



E



F



Confirm



Cancel



## Appendix B: Code ID

Code Characters	Code Type
C	CODE128/EAN/UCC 128/GS1-128
F	CODE39/CODE32
J	CODE11
B	CODABAR
K	CODE93
E	EAN13/EAN8/ISBN/ISSN
U	UPC-A/UPC-E
I	ITF25
D	IND25
S	STD25
M	MATRIX25
N	NEC25/COOP25
P	MSI PLSEEY
T	TELEPEN
A	PHARMACODE ONE-TRACK
W	TRIOPTIC
H	HONG KONG 2 of 5/CHINA POST
R	GS1 DATABAR/RSS
q	QR/MICRO QR
p	PDF 417/MICRO FDF 417
d	DATA MATRIX/DM
a	AZTEC CODE
h	HAN XIN
m	MAXI CODE
t	DOTCODE
g	GM
o	OCR
k	CODABLOCK A
f	CODABLOCK F
n	POSTAL CODE

## Appendix C: AIM ID

Code Type	AIM ID	Instruction
CODE128/EAN/UCC 128/GS1-128	]Cm	0,1,2,4
CODE39	]Am	0,1,3,4,5,7
CODE32	]X0	
CODE11	]Hm	0,1,3
CODABAR	]Fm	0-1
CODE93	]Gm	0-9,A-Z,a-m
EAN13	]E0	
EAN8	]E4	
ISSN		
ISBN	]E0	
UPC-A	]E0	
UPC-E	]E0	
UPC-E1	]E1	
ITF25	]Im	0,1,3
IND25	]S0	
STD25	]Rm	0,1,3
MATRIX25	]X0	
NEC25/COOP25	]X0	
MSI PLSEYY	]Mm	0,1
TELEPEN	]Bm	
PHARMACODE ONE-TRACK		
TRIOPTIC		
QR	]Qm	0-6
MICRO QR	]Qm	
PDF 417	]Lm	0-2
MICRO FDF 417	]Lm	3,4,5
DATA MATRIX/DM	]dm	0-6
AZTEC CODE	]zm	0-9,A-C
HAN XIN	]X0	
MAXI CODE	]Um	0-3
DOTCODE	]X0	
GM	]X0	
CODABLOCK A	]O6	0,1,4,5,6
CODABLOCK F	]Om	0,1,4,5,6
GS1 DATABAR/RSS	]e0	

## Appendix D: Instruction Set

Parameter Name		Instruction
Configuration	Factory Configuration	>!0016000.>;99
	Default Configuration	>!0016001.>;99
	Save the current configuration as the default	>!0016010.>;99
Version Information		>!0006020.>;99
Setting Code Switch	Allow	>!0010211.>;99
	Forbid	>!0010210.>;99
Setting Code Data Transfer	Allow	>!0010221.>;99
	Forbid	>!0010220.>;99
Communication Interface	USB KBW	>!0010061.>;99
	Serial	>!0010060.>;99
	USB COM	>!0010062.>;99
	HID POS	>!0010063.>;99
Communication Interface	Serial+ USB KBW	>!001006100.>;99
	Serial+ USB CDC	>!001006101.>;99
	Serial+ USB HID POS	>!001006102.>;99
Keyboard Settlement	US	>!00100B0.>;99
	Belgium	>!00100B2.>;99
	Brazil	>!00100B3.>;99
	Canada	>!00100B4.>;99
	Czech Republic/Slovakia	>!00100B5.>;99
	Denmark	>!00100B6.>;99
	Finland	>!00100B7.>;99
	France	>!00100B8.>;99
	Austria/Germany	>!00100B9.>;99
	Greece	>!00100B10.>;99
	Hungary	>!00100B11.>;99
	Israel	>!00100B12.>;99
	Italy	>!00100B13.>;99
	Latin America	>!00100B14.>;99
	Netherlands	>!00100B15.>;99
	Norway	>!00100B16.>;99
	Poland	>!00100B17.>;99
	Portugal	>!00100B18.>;99
	Romania	>!00100B19.>;99
	Russia	>!00100B20.>;99
Russia	>!00100B21.>;99	
Slovakia	>!00100B22.>;99	
Sweden	>!00100B23.>;99	

	Switzerland	>!00100B24.>;99
	Turkey F	>!00100B25.>;99
	Turkey Q	>!00100B26.>;99
	UK	>!00100B27.>;99
	Japan	>!00100B28.>;99
Keyboard Type	Standard keyboard	>!00100E0.>;99
	Virtual keyboard	>!00100E1.>;99
Character Transmission Interval	0ms	>!00100C0.>;99
	5ms	>!00100C5.>;99
	10ms	>!00100C10.>;99
	20ms	>!00100C20.>;99
	30ms	>!00100C30.>;99
	50ms	>!00100C50.>;99
Control Character Output Mode	Output function key	>!0010310.>;99
	Output Ctrl combination key	>!0010311.>;99
	Output ALT+ Number key	>!0010312.>;99
	Output only Enter and down keys	>!0010313.>;99
Baud Rate	600	>!0010071.>;99
	1200	>!0010072.>;99
	2400	>!0010073.>;99
	4800	>!0010074.>;99
	9600	>!0010075.>;99
	14400	>!0010076.>;99
	19200	>!0010077.>;99
	38400	>!0010078.>;99
	57600	>!0010079.>;99
	115200	>!00100710.>;99
Parity Bit	No parity	>!0010090.>;99
	Odd number	>!0010091.>;99
	Even number	>!0010092.>;99
Stop Bit	1 Bit	>!00100A0.>;99
	2 Bit	>!00100A2.>;99
Data Bit	5 bit	>!0010080.>;99
	6 bit	>!0010081.>;99
	7 bit	>!0010082.>;99
	8 bit	>!0010083.>;99
Handshake	ACK	>!0010381.>;99
	NAK	>!0010380.>;99
Character Set Input	Auto	>!00101C0.>;99
	GBK	>!00101C1.>;99
	UTF-8	>!00101C2.>;99
	ASCII	>!00101C3.>;99
	ShIFTJIS Japanese	>!00101C4.>;99

Character Set Output	Raw format	>!00101D0.>;99
	GBK	>!00101D1.>;99
	UTF-8	>!00101D2.>;99
Read Mode	Button Holding Mode	>!0010000.>;99
	Single Button Trigger Mode	>!0010001.>;99
	Continuous Mode	>!0010002.>;99
	Induction Mode	>!0010003.>;99
Sensitivity Rating	Ultra-High Sensitivity	>!0010050.>;99
	High Sensitivity	>!0010051.>;99
	Medium Sensitivity	>!0010058.>;99
	Low Sensitivity	>!00100515.>;99
Image Stabilization Time	100ms	>!001004 <b>100</b> .>;99
	200ms	>!001004 <b>200</b> .>;99
	300ms	>!001004 <b>300</b> .>;99
	400ms	>!001004 <b>400</b> .>;99
	500ms	>!001004 <b>500</b> .>;99
	1000ms	>!001004 <b>1000</b> .>;99
Trigger Mode	Start decode	>!200000.>;99
	Stop decode	>!200001.>;99
Reset	Reset	>!200002.>;99
Same Code Read	0ms	>!001003 <b>0</b> .>;99
	100ms	>!001003 <b>100</b> .>;99
	300ms	>!001003 <b>300</b> .>;99
	500ms	>!001003 <b>500</b> .>;99
	1000ms	>!001003 <b>1000</b> .>;99
	3000ms	>!001003 <b>3000</b> .>;99
Single Scan Time	0ms (Infinite)	>!001001 <b>0</b> .>;99
	1000ms	>!001001 <b>1000</b> .>;99
	2000ms	>!001001 <b>2000</b> .>;99
	3000ms	>!001001 <b>3000</b> .>;99
	5000ms	>!001001 <b>5000</b> .>;99
	10000ms	>!001001 <b>10000</b> .>;99
Break Time Settlement	0ms (No Break)	>!001002 <b>0</b> .>;99
	500ms	>!001002 <b>500</b> .>;99
	1000ms	>!001002 <b>1000</b> .>;99
	2000ms	>!001002 <b>2000</b> .>;99
	5000ms	>!001002 <b>5000</b> .>;99
	10000ms	>!001002 <b>10000</b> .>;99
Power Supply Mode	Sleep Mode	>!0010251.>;99
	Continuous Working Mode	>!0010250.>;99
Lighting	Normal	>!0010150.>;99
	No lighting	>!0010151.>;99

	Lighting Always On	>!0010152.>;99
Ambient light	Normal	>!0010160.>;99
	Off	>!0010161.>;99
	Always On	>!0010162.>;99
Buzzer Type	Active Buzzer	>!0010111.>;99
	Passive Buzzer	>!0010110.>;99
Buzzer Frequency	500Hz	>!001036500.>;99
	1000Hz	>!0010361000.>;99
	1500Hz	>!0010361500.>;99
	2000Hz	>!0010362000.>;99
	2500Hz	>!0010362500.>;99
	2700Hz	>!0010362700.>;99
Volume Level	Low	>!00101040.>;99
	Middle	>!00101070.>;99
	High	>!001010100.>;99
	Silence	>!0010100.>;99
Starting Up Prompt Tone	Forbid	>!0010120.>;99
	Allow	>!0010121.>;99
Setting Code Prompt Tone	Forbid	>!0010140.>;99
	Allow	>!0010141.>;99
Decoding Prompt Tone	Forbid	>!0010130.>;99
	Allow	>!0010131.>;99
Decoding Prompt Tone Duration	50ms	>!00103750.>;99
	70ms	>!00103770.>;99
	100ms	>!001037100.>;99
	150ms	>!001037150.>;99
	200ms	>!001037200.>;99
	300ms	>!001037300.>;99
Prompt Light Type	Decoding Prompt	>!0010170.>;99
	Power Supply Prompt	>!0010171.>;99
Decoding Successful Prompt Light	Allow	>!0010181.>;99
	Forbid	>!0010180.>;99
Decoding Successful Prompt Light Control Mode	Power on Always Off	>!0010190.>;99
	Power on Always On	>!0010191.>;99
Decode Status NR Output	Output NR	>!0010241.>;99
	No Output NR	>!0010240.>;99
AIM ID	Allow AIM ID	>!00101B1.>;99
	Forbid AIM ID	>!00101B0.>;99
CODE ID	Allow CODE id	>!00101A1.>;99
	Forbid CODE id	>!00101A0.>;99
Tail	Forbid	>!0010200.>;99
	CR LF	>!0010201.>;99
	CR	>!0010202.>;99

	TAB	>!0010203.>;99
LF to Enter	Forbid	>!0010390.>;99
	Allow	>!0010391.>;99
Letter Case Conversion	Normal Output	>!00100D0.>;99
	All uppercase	>!00100D1.>;99
	All lowercase	>!00100D2.>;99
	Case reversal	>!00100D3.>;99
The decoded data is sent in packets	Allow	>!0010231.>;99
	Forbid	>!0010230.>;99
Prefix	Allow	>!00101E1.>;99
	Forbid	>!00101E0.>;99
Example of prefix content setting	Add prefix A (hexadecimal 41)	>!010800 <b>41</b> .>;99
	Add prefix AB(hexadecimal 41 42)	>!010800 <b>4142</b> .>;99
Suffix	Allow	>!00101F1.>;99
	Forbid	>!00101F0.>;99
Example of suffix content setting	Add suffix A (hexadecimal 41)	>!010801 <b>41</b> .>;99
	Add suffix AB(hexadecimal 41 42)	>!010801 <b>4142</b> .>;99
Based on the Bar code Type to Add Prefix Switch	Forbid add prefix	>!00103D0.>;99
	Allow add prefix	>!00103D1.>;99
Based on the Bar code Type to Add Prefix Setting	XXXX is variant content Pls check 8.5.2	>!010806XXXX. >;99
Based on the Bar code Type to Delete Prefix	XX is variant content Pls check 8.5.3	>!010808XX. >;99
Based on the Bar code Type to Add Suffix Switch	Forbid add suffix	>!00103E0.>;99
	Allow add suffix	>!00103E1.>;99
Based on the Bar code Type to Add Suffix Setting	XXXX is variant content Pls check 8.6.2	>!010807XXXX. >;99
Based on the Bar code Type to Delete Suffix	XX is variant content Pls check 8.6.3	>!010809XX. >;99
Hidden Fixed Characters Switch	Allow	>!00102C1.>;99
	Forbid	>!00102C0.>;99
Example of Hide Fixed Characters Setting	Hide character A	>!01080241.>;99
	Hide LF	>!0108020A.>;99
Based on Length to Keep Bar Code Data	Forbid	>!0010290.>;99
	Forward Index	>!0010291.>;99
	Inverted Index	>!0010292.>;99
Example of Keep the Data Start Position	Keep 11 <sup>th</sup> position	>!00102A <b>11</b> .>;99
	Keep 100 <sup>th</sup> position	>!00102A <b>100</b> .>;99
Example of Keep the Data End Position	Keep 11 <sup>th</sup> position	>!00102B <b>11</b> .>;99
	100 <sup>th</sup> position	>!00102B <b>100</b> .>;99
Based on Length to Hide Bar Code Data	Forbid	>!0010260.>;99
	Forward Index	>!0010261.>;99
	Inverted Index	>!0010262.>;99

Example of Hide Bar Code Data Start Position	11 <sup>th</sup> position start hidden	>!00102711.>;99
	100 <sup>th</sup> position start hidden	>!001027100.>;99
Example of Hide Bar Code Data End Position	11 <sup>th</sup> position finish hidden	>!00102811.>;99
	100 <sup>th</sup> position finish hidden	>!001028100.>;99
Based on Bar Code Type Hide Bar Code Data Switch	Forbid	>!00103F0.>;99
	Forward Index	>!00103F1.>;99
	Inverted Index	>!00103F2.>;99
Based on Bar Code Type Hide Data Start Position	Pls check 8.10.2	>!01080AXXXX.>;99
Based on Bar Code Type Hide Data End Position	Pls check 8.10.3	>!01080BXXXX.>;99
Insert Custom Characters Switch	Forbid	>!00102D0.>;99
	Allow	>!00102D1.>;99
Example of Insert Custom Characters	Insert Characters A	>!01080341.>;99
	Insert Characters ABC	>!010803414243.>;99
Example of Insert Position	Insert starting before the 5 <sup>th</sup> position	>!00102E5.>;99
	Insert starting before the 20 <sup>th</sup> position	>!00102E20.>;99
Character Replacement Switch	Forbid	>!00102F0.>;99
	Allow	>!00102F1.>;99
Example of Replaced Character	replaced character A	>!01080441.>;99
	replaced LF	>!0108040A.>;99
Example of Replacement Character	Replace character to A	>!01080541.>;99
	Replace character to AC	>!0108054143.>;99
URL Switch	Allow	>!0010330.>;99
	Forbid	>!0010331.>;99
Invoice Function Switch	Allow	>!0010340.>;99
	Forbid	>!0010341.>;99
Invoice Type	Special invoice	>!0010350.>;99
	Ordinary invoice	>!0010351.>;99
GSI Rule	Allow	>!0010321.>;99
	Forbid	>!0010320.>;99
Global Switch	Forbid	>!0005020.>;99
	Allow	>!0005021.>;99
1D Code Global Switch	Forbid	>!0005000.>;99
	Allow	>!0005001.>;99
2D Code Global Switch	Forbid	>!0005010.>;99
	Allow	>!0005011.>;99
1D Code (Bar Code) Security Level	0 level	>!0005080.>;99
	1 level	>!0005081.>;99
	2 level	>!0005082.>;99
	3 level	>!0005083.>;99



	4 level	>!0005084.>;99
Multi-code Reading	Forbid	>!0005050.>;99
	Allow	>!0005051.>;99
Example of Multi-code Reading	1	>!0005061.>;99
	2	>!0005062.>;99
	3	>!0005063.>;99
	4	>!0005064.>;99
	5	>!0005065.>;99
	6	>!0005066.>;99
Global Reverse Color Switch	Forbid	>!0005030.>;99
	Allow	>!0005031.>;99
CODE128 Reverse Color Switch	Forbid	>!0000150.>;99
	Allow	>!0000151.>;99
CODE39 Reverse Color Switch	Forbid	>!00014B0.>;99
	Allow	>!00014B1.>;99
EAN/UPC Reverse Color Switch	Forbid	>!0000560.>;99
	Allow	>!0000561.>;99
CODE93 Reverse Color Switch	Forbid	>!0001650.>;99
	Allow	>!0001651.>;99
CODEBAR Reverse Color Switch	Forbid	>!0001580.>;99
	Allow	>!0001581.>;99
ITF25 Reverse Color Switch	Forbid	>!0000B50.>;99
	Allow	>!0000B51.>;99
<b>CODE128 Switch*</b>	Forbid	>!0000100.>;99
	Allow	>!0000101.>;99
Example of CODE128 Min Length	2 bits CODE128	>!0000122.>;99
	11 bits CODE128	>!00001211.>;99
Example of CODE128 Max Length	12 bits CODE128	>!00001312.>;99
	20 bits CODE128	>!00001320.>;99
<b>GS1-128 Switch*</b>	Forbid	>!0000200.>;99
	Allow	>!0000201.>;99
Example of GS1-128 Min Length	2 bits GS1-128	>!0000222.>;99
	11 bits GS1-128	>!00002211.>;99
Example of GS1-128 Max Length	12 bits GS1-128	>!00002312.>;99
	20 bits GS1-128	>!00002320.>;99
<b>CODE39 Switch*</b>	Forbid	>!0001400.>;99
	Allow	>!0001401.>;99
CODE39 FULL ASCII	Forbid	>!0001440.>;99
	Allow	>!0001441.>;99
CODE39 Check Bit Verification	Forbid	>!0001410.>;99
	Allow	>!0001411.>;99
CODE39 Check Bit Transmission	Forbid	>!0001420.>;99
	Allow	>!0001421.>;99

CODE39 Start/End Character Transmission	Forbid	>!0001430.>;99
	Allow	>!0001431.>;99
Example of CODE39 Min Length	5 bit CODE39	>!0001455.>;99
Example of CODE39 Max Length	12 bit CODE39	>!00014612.>;99
<b>CODE32 Switch</b>	Forbid	>!0001470.>;99
	Allow	>!0001471.>;99
CODE32 Prefix	Forbid	>!0001480.>;99
	Allow	>!0001481.>;99
CODE32 Check Bit Verification	Forbid	>!0001490.>;99
	Allow	>!0001491.>;99
CODE32 Check Bit Transmission	Forbid	>!00014A0.>;99
	Allow	>!00014A1.>;99
<b>EAN13 Switch*</b>	Forbid	>!0000600.>;99
	Allow	>!0000601.>;99
EAN13 Check Bit Transmission	Forbid	>!0000610.>;99
	Allow	>!0000611.>;99
EAN13+2 Bits Extra-code	Forbid	>!0000620.>;99
	Allow	>!0000621.>;99
EAN13+5 Bits Extra-code	Forbid	>!0000630.>;99
	Allow	>!0000631.>;99
Read Only EAN13 with Extra-code	Forbid	>!0000640.>;99
	Allow	>!0000641.>;99
<b>EAN8 Switch*</b>	Forbid	>!0000500.>;99
	Allow	>!0000501.>;99
EAN8 Check Bit Transmission	Forbid	>!0000510.>;99
	Allow	>!0000511.>;99
EAN8+2 Bits Extra-code	Forbid	>!0000520.>;99
	Allow	>!0000521.>;99
EAN8+5 Bits Extra-code	Forbid	>!0000530.>;99
	Allow	>!0000531.>;99
Read Only EAN8 with Extra-code	Forbid	>!0000540.>;99
	Allow	>!0000541.>;99
<b>ISSN Switch*</b>	Forbid	>!0000700.>;99
	Allow	>!0000701.>;99
<b>ISBN Switch*</b>	Forbid	>!0000800.>;99
	Allow	>!0000801.>;99
<b>UPC-A Switch*</b>	Forbid	>!0000A00.>;99
	Allow	>!0000A01.>;99
UPC-A Check Bit Transmission	Forbid	>!0000A10.>;99
	Allow	>!0000A11.>;99
UPC-A+2 Bits Extra-code	Forbid	>!0000A20.>;99
	Allow	>!0000A21.>;99
UPC-A+5 Bits Extra-code	Forbid	>!0000A30.>;99

	Allow	>!0000A31.>;99
Read Only UPC-A with Extra-code	Forbid	>!0000A40.>;99
	Allow	>!0000A41.>;99
Transmission System Character "0"	Forbid	>!0000A50.>;99
	Allow	>!0000A51.>;99
<b>UPC-E Switch*</b>	Forbid	>!0000900.>;99
	Allow	>!0000901.>;99
UPC-E Check Bit Transmission	Forbid	>!0000910.>;99
	Allow	>!0000911.>;99
UPC-E+2 Bits Extra-code	Forbid	>!0000920.>;99
	Allow	>!0000921.>;99
UPC-E+5 Bits Extra-code	Forbid	>!0000930.>;99
	Allow	>!0000931.>;99
Read Only UPC-E with Extra-code	Forbid	>!0000940.>;99
	Allow	>!0000941.>;99
UPC-E Converted to UPC-A	Forbid	>!0000960.>;99
	Allow	>!0000961.>;99
Transmission System Character "0"	Forbid	>!0000950.>;99
	Allow	>!0000951.>;99
<b>UPC-E1 Switch</b>	Forbid	>!0000970.>;99
	Allow	>!0000971.>;99
<b>CODE93 Switch</b>	Forbid	>!0001600.>;99
	Allow	>!0001601.>;99
Example of CODE93 Min Length	5 bits CODE93	>!0001635.>;99
Example of CODE93 Max Length	12 bits CODE93	>!00016412.>;99
<b>CODABAR Switch*</b>	Forbid	>!0001500.>;99
	Allow	>!0001501.>;99
CODABAR Check Bit Verification	Forbid	>!0001510.>;99
	Allow	>!0001511.>;99
CODABAR Check Bit Transmission	Forbid	>!0001520.>;99
	Allow	>!0001521.>;99
CODABAR Start/End Character Transmission	Forbid	>!0001530.>;99
	Allow	>!0001531.>;99
CODABAR Start/End Character Format	ABCD/TN*E Format	>!0001541.>;99
	Normal ABCD Format	>!0001540.>;99
CODABAR Start/End Character Case	Lower Case	>!0001551.>;99
	Upper Case	>!0001550.>;99
Example of CODABAR Min Length	5 bits CODABAR	>!0001565.>;99
Example of CODABAR Max Length	12 bits CODABAR	>!00015712.>;99
<b>ITF25 Switch*</b>	Forbid	>!0000B00.>;99
	Allow	>!0000B01.>;99

ITF25 Check Bit Verification	Forbid	>!0000B10.>;99
	Allow	>!0000B11.>;99
ITF25 Check Bit Transmission	Forbid	>!0000B20.>;99
	Allow	>!0000B21.>;99
Example of ITF25 Min Length	5 bits ITF25	>!0000B35.>;99
Example of ITF25 Max Length	12 bits ITF25	>!0000B412.>;99
<b>MATRIX25 Switch*</b>	Forbid	>!0001100.>;99
	Allow	>!0001101.>;99
MATRIX25 Check Bit Verification	Forbid	>!0001110.>;99
	Allow	>!0001111.>;99
MATRIX25 Check Bit Transmission	Forbid	>!0001120.>;99
	Allow	>!0001121.>;99
Example of MATRIX25 Min Length	5 bits MATRIX25	>!0001135.>;99
Example of MATRIX25 Max Length	12 bits MATRIX25	>!00011412.>;99
<b>STD25 Switch*</b>	Forbid	>!0001300.>;99
	Allow	>!0001301.>;99
Example of STD25 Min Length	5 bits STD25	>!0001335.>;99
Example of STD25 Max Length	12 bits STD25	>!00013412.>;99
<b>IND25 Switch*</b>	Forbid	>!0001200.>;99
	Allow	>!0001201.>;99
Example of IND25 Min Length	5 bits IND25	>!0001235.>;99
Example of IND25 Max Length	12 bits IND25	>!00012412.>;99
<b>HK25/ChinaPost/Datalogic25 Switch*</b>	Forbid	>!0001F90.>;99
	Allow	>!0001F91.>;99
<b>CODE11 Switch*</b>	Forbid	>!0001700.>;99
	Allow	>!0001710.>;99
CODE11 Check Bit Verification	No Check	>!0001710.>;99
	1 Bit Check	>!0001711.>;99
	2 Bit Check	>!0001712.>;99
CODE11 Check Bit Transmission	Forbid	>!0001720.>;99
	Allow	>!0001721.>;99
Example of CODE11 Min Length	5 bits CODE11	>!0001735.>;99
Example of CODE11 Max Length	12 bits CODE11	>!00017412.>;99
<b>MSI PLSEYY Switch*</b>	Forbid	>!0001900.>;99
	Allow	>!0001901.>;99
MSI PLESSY Check Bit Verification	MOD10 Single Character Check	>!0001911.>;99
	MOD10/MOD10 Double-character Check	>!0001912.>;99
	MOD10/MOD11 Double-character Check	>!0001913.>;99
MSI PLESSY Check Bit	Forbid	>!0001921.>;99

Transmission	Allow	>!0001920.>;99
Example of MSIPLESSY Min Length	5 bits MSIPLESSY	>!0001935.>;99
Example of MSIPLESSY Max Length	12 bits MSIPLESSY	>!00019412.>;99
<b>TELEPEN Switch</b>	Forbid	>!0001B90.>;99
	Allow	>!0001B91.>;99
<b>TRIOPTIC Switch</b>	Forbid	>!0001C90.>;99
	Allow	>!0001C91.>;99
<b>Brazilian Government/Bank code Switch</b>	Forbid	>!0000B70.>;99
	Allow	>!0000B71.>;99
<b>QR Switch*</b>	Forbid	>!0003100.>;99
	Allow	>!0003101.>;99
QR Forward and Reverse Recognition	Only Read Forward	>!0003120.>;99
	Only Read Reverse	>!0003121.>;99
	Can Read Forward and Reverse	>!0003122.>;99
<b>DM Switch*</b>	Forbid	>!0003200.>;99
	Allow	>!0003201.>;99
DM Forward and Reverse Recognition	Only Read Forward	>!0003220.>;99
	Only Read Reverse	>!0003221.>;99
	Can Read Forward and Reverse	>!0003222.>;99
<b>PDF417 Switch*</b>	Forbid	>!0003000.>;99
	Allow	>!0003001.>;99
PDF417 Forward and Reverse Recognition	Only Read Forward	>!0003020.>;99
	Can Read Forward and Reverse	>!0003022.>;99
<b>AZTEC CODE Switch*</b>	Forbid	>!0003400.>;99
	Allow	>!0003401.>;99
<b>GS1 DATABAR Switch*</b>	Forbid	>!0001A00.>;99
	Allow	>!0001A01.>;99
<b>COMPSITE Switch*</b>	Forbid	>!0001B00.>;99
	Allow	>!0001B01.>;99
<b>MAXI Switch*</b>	Forbid	>!0003300.>;99
	Allow	>!0003301.>;99
<b>HAN XIN Switch*</b>	Forbid	>!0003500.>;99
	Allow	>!0003501.>;99

## Appendix E: ASCII

Hexadecimal	Keyboard function key operation	Keyboard CTRL combination Key operation
00h	Null	CTRL 2
01h	Keypad Enter	CTRL A
02h	Caps lock	CTRL B
03h	Right Arrow	CTRL C
04h	Up Arrow	CTRL D
05h	Null	CTRL E
06h	Null	CTRL F
07h	Enter	CTRL G
08h	Left Arrow	CTRL H
09h	Horizontal Tab	CTRL I
0Ah	Down Arrow	CTRL J
0Bh	Vertical Tab	CTRL K
0Ch	Backspace	CTRL L
0Dh	Enter	CTRL M
0Eh	Insert	CTRL N
0Fh	Esc	CTRL O
10h	F11	CTRL P
11h	Home	CTRL Q
12h	Print Screen	CTRL R
13h	Delete	CTRL S
14h	tab+shift	CTRL T
15h	F12	CTRL U
16h	F1	CTRL V
17h	F2	CTRL W
18h	F3	CTRL X
19h	F4	CTRL Y
1Ah	F5	CTRL Z
1Bh	F6	CTRL [
1Ch	F7	CTRL \
1Dh	F8	CTRL ]
1Eh	F9	CTRL 6
1Fh	F10	CTRL -
20h	Space	
21h	!	
22h	‘	
23h	#	
24h	\$	
25h	%	

26h	&
27h	‘
28h	(
29h	)
2Ah	*
2Bh	+
2Ch	,
2Dh	-
2Eh	.
2Fh	/
30h	0
31h	1
32h	2
33h	3
34h	4
35h	5
36h	6
37h	7
38h	8
39h	9
3Ah	:
3Bh	;
3Ch	<
3Dh	=
3Eh	>
3Fh	?
40h	@
41h	A
42h	B
43h	C
44h	D
45h	E
46h	F
47h	G
48h	H
49h	I
4Ah	J
4Bh	K
4Ch	L
4Dh	M
4Eh	N
4Fh	O
50h	P

51h	Q
52h	R
53h	S
54h	T
55h	U
56h	V
57h	W
58h	X
59h	Y
5Ah	Z
5Bh	[
5Ch	\
5Dh	]
5Eh	^
5Fh	_
60h	,
61h	a
62h	b
63h	c
64h	d
65h	e
66h	f
67h	g
68h	h
69h	i
6Ah	j
6Bh	k
6Ch	l
6Dh	m
6Eh	n
6Fh	o
70h	p
71h	q
72h	r
73h	s
74h	t
75h	u
76h	v
77h	w
78h	x
79h	y
7Ah	z
7Bh	{



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7Ch		
7Dh	}	
7Eh	~	
7Fh		Undefined

## Appendix F: Barcode Type

Bar Code	Hexadecimal Type
CODE128/EAN/UCC 128/GS1-128	01h
CODE39/CODE32	14h
CODE11	17h
CODABAR	15h
CODE93	16h
EAN8	05h
EAN13/ISBN	06h
ISSN	07h
UPC-E	09h
UPC-A	0Ah
ITF25	0Bh
IND25	12h
STD25	13h
MATRIX25	11h
NEC25/COOP25	10h
MSI PLSEEY	19h
TELEPEN	1Fh
PHARMACODE ONE-TRACK	23h
TRIOPTIC	22h
QR/MICRO QR	3Dh
PDF 417/MICRO FDF 417	3Ch
DATA MATRIX/DM	3Fh
AZTEC CODE	3Eh
HAN XIN	43h
MAXI CODE	40h
DOTCODE	45h
GM	44h
CODABLOCK A	26h
CODABLOCK F	24h
GS1 DATABAR/RSS	1Ah
POSTAL CODE	25h
OCR	46h
HONG KONG 2 of 5/CHINA POST	20h