Table of Content

[Revision History IV](#_Toc4677)

[一、 Basic information 1](#_Toc2297)

[1. Factory Default Configuration 1](#_Toc30388)

[2. Save current configuration as default 1](#_Toc6768)

[3. Default Configuration 1](#_Toc290)

[4. Parameter code 2](#_Toc19788)

[5. Product information 2](#_Toc17977)

[二、 Communication Mode 2](#_Toc26786)

[1. Serial Port 2](#_Toc10633)

[（1）Baud Rate 2](#_Toc16229)

[（2）parity 4](#_Toc16715)

[（3）Stop bit 4](#_Toc18840)

[2. USB KBW 5](#_Toc15719)

[3. USB COM 5](#_Toc22470)

[三、 Trigger Mode 5](#_Toc4978)

[1. 手动模式 5](#_Toc15236)

[2. Continuous Mode 6](#_Toc32696)

[（1）Interval Time 6](#_Toc21713)

[3. Automatic Induction Mode 6](#_Toc11159)

[（1）Stability of Induction Time 7](#_Toc13188)

[（2）Sensitivity Level 7](#_Toc2995)

[4. Host mode 8](#_Toc13616)

[5. Duration in Scanning 8](#_Toc23757)

[6. Output Interval of The Same Code 9](#_Toc2853)

[7. Quick set for output Interval of The Same Code 9](#_Toc7233)

[四、 Floodlight and Positioning lights 10](#_Toc12660)

[1. Floodlight 10](#_Toc370)

[2. Positioning lights 10](#_Toc26406)

[五、 Output and prompt 11](#_Toc26548)

[1. Keyboard 11](#_Toc30972)

[（1） Country/Language Keyboard 11](#_Toc21623)

[（2） Keyboard type 14](#_Toc31614)

[（3） Time interval that keyboard outputs character 14](#_Toc25526)

[（4） Output Ctrl Combination Key 14](#_Toc13849)

[2. Prompt sound 14](#_Toc29948)

[（1） Mute 14](#_Toc20639)

[（2） Beeper Volume 15](#_Toc1407)

[（3） Beep After Good Decode 15](#_Toc7535)

[（4） Boot prompt 16](#_Toc18464)

[（5） Setup Code Prompt 16](#_Toc28157)

[3. Transmit “No Read” Message 16](#_Toc21068)

[4. Letter case conversion 17](#_Toc3231)

[5. Data encoding format 17](#_Toc11543)

[6. Invoice Function 18](#_Toc3530)

[六、Data editor 18](#_Toc21516)

[1. Code ID 18](#_Toc31779)

[2. Terminator 19](#_Toc14205)

[3. Add multiple Prefixes/suffixes 20](#_Toc15876)

[4.  Hide data 22](#_Toc18012)

[(1) Hide Head Data 22](#_Toc18553)

[(2) Hide intermediate  data 22](#_Toc25577)

[(3) Hide tail data 23](#_Toc4786)

[5. STX&ETX 23](#_Toc4021)

[七、Code Enable/Disable 24](#_Toc5763)

[1. 1d code master switch 24](#_Toc31430)

[2. 2d code master switch 24](#_Toc19819)

[3. 1D Reverse code reading 24](#_Toc23268)

[4. UPC-A 24](#_Toc22318)

[5. UPC-A additional code 25](#_Toc5470)

[6. UPC-E 26](#_Toc7703)

[7. UPC-E additional code 27](#_Toc25787)

[8. UPC-E transfer UPC-A 28](#_Toc11858)

[9. UPC-A transfer EAN-13 28](#_Toc31032)

[10. EAN-8 28](#_Toc24826)

[11. EAN-8 additional code 29](#_Toc20999)

[12. EAN-13 30](#_Toc16601)

[13. EAN-13 additional code 30](#_Toc15780)

[\*disable 31](#_Toc32238)

[14. CODE 128 31](#_Toc8642)

[15. GS1-128 31](#_Toc11812)

[16. ISBT-128 32](#_Toc28564)

[17. Interleaved 2 of 5 32](#_Toc19695)

[18. Matrix 2 of 5 33](#_Toc3977)

[19. Industrial 2 of 5 34](#_Toc14506)

[20. Standard 2 of 5 35](#_Toc10157)

[21. Code 39 36](#_Toc9181)

[22. Code 39 Full ASCII 37](#_Toc31312)

[23. Code 32 37](#_Toc25058)

[24. Code 93 38](#_Toc18078)

[25. Code 11 38](#_Toc29054)

[26. Codabar 39](#_Toc9044)

[27. PLESSEY 40](#_Toc32100)

[28. MSI 40](#_Toc19377)

[29. GS1-Databar 40](#_Toc2499)

[30. ITF14 41](#_Toc22865)

[31. GS1 composite code 41](#_Toc32587)

[32. QR Code 42](#_Toc31135)

[33. Data Matrix 43](#_Toc1868)

[34. PDF 417 44](#_Toc25589)

[35. Aztec code 46](#_Toc2525)

[36. Maxi code 46](#_Toc15785)

[37. Hanxin code 46](#_Toc26157)

[Appendix 1：numbered bar code 47](#_Toc17301)

[Appendix 2：CANCEL 49](#_Toc32366)

[Appendix 3：Code ID 50](#_Toc3300)

[Appendix 4：Character comparison table 51](#_Toc15347)

# Revision History

|  |  |  |
| --- | --- | --- |
| **[version](https://fanyi.so.com/" \l " version" \t "https://fanyi.so.com/_blank)** | **date** | **description** |
| V00 | 2015-06-12 |  |
| V01 | 2015-10-25 |  |
| V02 | 2016-12-26 |  |
| V03 | 2018-01-01 |  |
| V04 | 2018-05-04 |  |
| V05 | 2018-08-03 |  |
| V06 | 2018-08-16 |  |
| V07 | 2018-08-18 |  |
| V08 | 2018-08-30 |  |
| V09 | 2018-09-08 |  |
| V10 | 2018-10-08 |  |
| V11 | 2018-11-07 |  |

**Software Development Manual**

# Basic information

## Factory Default Configuration

Communication Mode：USB

Trigger Mode：Manual mode

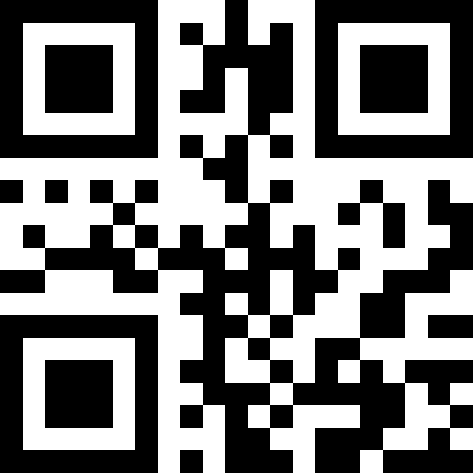
Terminator：CR。



Factory Default Configuration

## Save current configuration as default

The user can set the required configuration , and then scan the following barcode，Save current configuration as default



Save current configuration as default

## Default Configuration

When the user has set the default settings, scan the following barcode to restore the original set of customer configurations



Default Configuration

## **Parameter code**

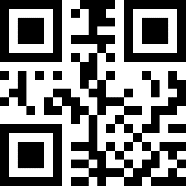


**\*open Parameter code**



**close** **Parameter code**

## **Product information**



# Communication Mode

## Serial Port

Using Serial Port，read moudle and the host devices must match exactly in ommunication parameter configuration, to ensure smooth communication and content are correct, Serial Port is configured to: **9600 baud, 8 bits of data, no parity, 1 stop bit**



**TTL 232**

## （1）Baud Rate

The default baud rate is 9,600

****

**1200bps**

****

**2400bps**

****

**4800bps**

****

**\* 9600bps**

****

**19200bps**

****

**38400bps**

****

**57600bps**

****

**115200bps**

## （2）parity

****

**Odd**

****

**Even**

****

**\* None**

## （3）Stop bit

****

**\*1 Stop Bit**

****

**2 Stop Bits**

## 2. USB KBW



**USB KBW**

## 3. USB COM



**USB COM**

# Trigger Mode

## 手动模式

### （1）**Key Holding**

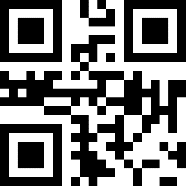
Press the button to trigger the reading, release the button to end the reading. Reading success or reading time over a single reading time will end the reading。



**\*Manual mode-Key Holding**

### （2）**Single Key Trigger**

Detects the change of the key level (Maintain 30ms, depending on the product )to start reading, and then detects the change of the key level (Maintain 30ms, depending on the product )again to end reading. Reading success or reading time over a single reading time will end the reading.



**Manual mode-Single Key Trigger**

## Continuous Mode

The reading engine performs continuous work. Reading success or reading time over a single reading time will end the reading. More than the specified time will automatically trigger the next reading 

Continuous Mode

## （1）Interval Time

The interval time between two readings in continuous mode. Regardless of the last success or failure to read, more than the specified time will automatically trigger the next reading.

Default: 500ms,unit: 100ms,range: 0-9900ms

To set a Interval Time, scan the bar code below. Next scan two [Numeric Bar Codes](#_Appendix 1： numbered bar code) in appendix that correspond to the desired time-out. Single digit values must have a leading zero. For example, to set a time-out of 0.5 seconds, scan the bar code below, then scan the “0” and “5” bar codes. To change the selection or cancel an incorrect entry, scan *[Cancel](#cancel)* [in appendix](#cancel)*[.](#cancel)*



**Interval Time**

**(Default: 500ms.)**

## Automatic Induction Mode

In automatic induction mode, the scan engine detects the brightness of the surroundings. Trigger reading when the brightness changes. Reading success or reading time over a single reading time will end the reading. Regardless of the last success or failure to read, re-enter the detection of the surrounding environment brightness.



**Automatic Induction Mode**

## （1）Stability of Induction Time

Stability of induction time, Default: 500ms, unit:100ms, range: 0-9900ms

For example:

Set stability of induction time is 200ms

Scan stability of induction time setting code,then scan *[Numeric Bar Codes](#numeric)* 0 and 2

Set stability of induction time is 1500ms

Scan stability of induction time setting code,then scan *[Numeric Bar Codes](#numeric)* 1 and 5

****

**Stability of Induction Time**

## （2）Sensitivity Level

There are three levels of sensitivity to choose from , Default: 500ms

****

**\*High**



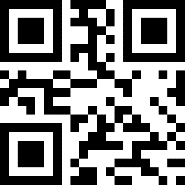
Middle

****

**Low**

## **Host mode**

Through the command to trigger the scan engine to read, also through the command to trigger the scan engine to end reading. Reading success or reading time over a single reading time will end the reading.



Host mode

## Duration in Scanning

This parameter sets the maximum time decode processing continues during a scan attempt. It is programmable in 0.1 second increments from 0.50 to 25.5 seconds.

To set a duration in scanning, scan the bar code below. Next scan three *[Numeric Bar Codes](#numeric)* in appendix that correspond to the desired on time. Single digit numbers must have a leading zero. For example, to set an on time of 0.5 seconds, scan the bar code below, then scan the "0", "0" and "5" bar codes; to set an on time of 10.5 seconds, scan the bar code below, then scan the "1", "0" and "5" bar codes. To change the selection or cancel an incorrect entry, scan *[Cancel](#cancel)* [in appendix](#cancel)*[.](#cancel)*



**Duration in Scanning(Default: 3.0 sec.)**

## Output Interval of The Same Code

To avoid reading the same barcode multiple times in continuous mode and automatic induction mode, set the scan engine to allow reading the same barcode after a delay.

Output interval of the same code is to refuse to read the same barcode within the set length of time.

Default: 500ms,unit:100ms,range: 0-9900ms

To set output interval of the same code, scan the bar code below. Next scan two Numeric Bar Codes in appendix that correspond to the desired time-out. Single digit values must have a leading zero. For example, to set a time-out of 0.5 seconds, scan the bar code below, then scan the “0” and “5” bar codes. To change the selection or cancel an incorrect entry, scan Cancel in appendix.



**Output Interval of The Same Code**

## Quick set for output Interval of The Same Code

None delay 1s delay 3s

Delay 5s delay 7s delay forever

# Floodlight and Positioning lights

## Floodlight

****

**\* Lighting when Read**



Always Lighting

****

**Always Close**

## Positioning lights



**\* Lighting when Read**



Always Lighting



**Always Close**

# Output and prompt

## Keyboard

## Country/Language Keyboard

****

\* American Keyboard



**Belgium**



Finland



**France**



Germany

****

**Italy**



Sweden

****

**England**



Denmark

****

**Norway**



Spain

****

**Portugal**



Turkey\_F

****

**Turkey\_Q**



Japan

****

**Russia**

## Keyboard type

Enable virtual keyboard, you can output the correct data in any keyboard language mode.When using virtual keyboard, you must ensure that the keypad keys are valid。

\***StandardKeyboard** **Virtual Keyboard**

## Time interval that keyboard outputs character

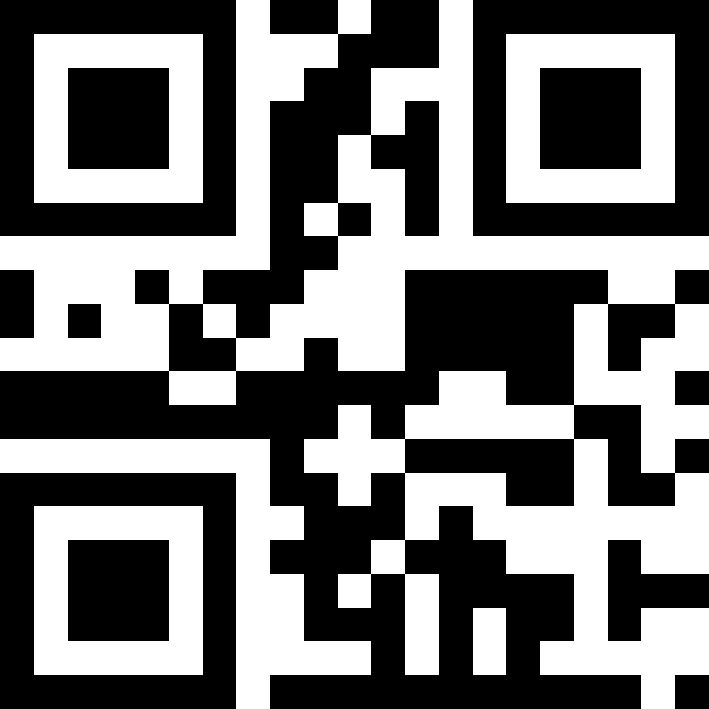
Time interval that keyboard outputs character, range: 0-1000ms,unit: 5ms,default: 5ms

0ms 10ms

## Output Ctrl Combination Key

After opening the function, the ASCII control character between 0x00~0x1F becomes the output Ctrl combination control key. The specific combination keys refer to the attachment.

**\*Disable Enable**

## Prompt sound

## Mute



Open

****

**\* Close**

## Beeper Volume



\* High

****

**Middle**

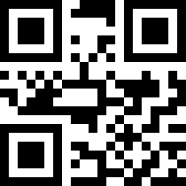


Low

## Beep After Good Decode



\*Open

****

**Close**

## Boot prompt



\*open

****

**Close**

## Setup Code Prompt



\*open

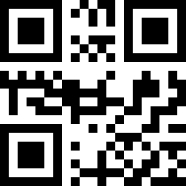
****

**Close**

## Transmit “No Read” Message

Enable this option to transmit “NR” if a symbol does not decode during the timeout period or before the trigger is released. Any enabled prefix or suffixes are appended around this message.

When disabled, and a symbol cannot be decoded, no message is sent to the host.



\*Disable No Read

****

**Enable No Read**

## Letter case conversion

For example If the Barcode content is： ab123dE，if set to " all uppercase "，the output is：AB123DE；if set to "all lowercase", the output is：ab123de；

if set to " Case Inversion", the output is：AB123De；

Default: **Normal Letter Case**



\* Normal Letter Case

****

all uppercase



all lowercase

****

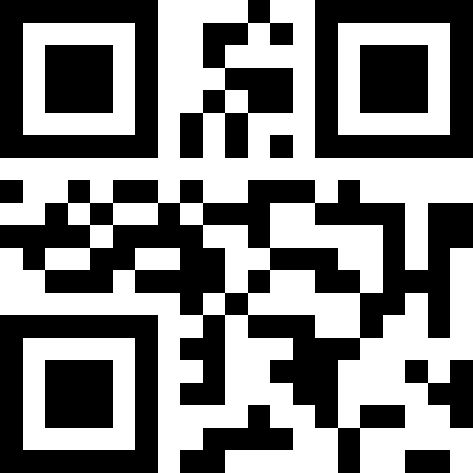
Case Inversion

## Data encoding format

0: Primitive Type

1:GBK(GB2312)

2: UTF8



Primitive Type



**\*GBK**

****

**Unicode**

## Invoice Function

****

**\* Disable**



Enable

# 六、Data editor

## Code ID

The user can identify different barcode types by CODE ID, and CODE ID USES a character to identify them



**\*Disable send Code ID**



Enable send Code ID

## Terminator

Add character format: Decode Data+Terminator.



**\*NONE**



**CR LF**

****

**CR**

****

**TAB**



**CRCR**



**CR LFCR LF**

## Add multiple Prefixes/suffixes

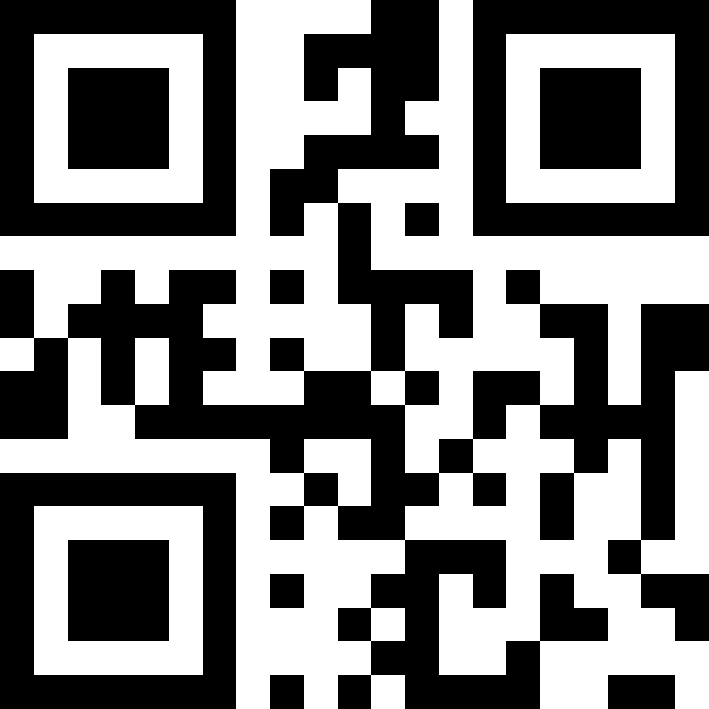
* Prefixes

1. Scan following barcode“set multiple prefixes”



**set multiple prefixes**

1. Next scan four [Numeric Bar Codes](#_Appendix 1： numbered bar code) in appendix,Scan the [Numeric Bar Codes](#_Appendix 1： numbered bar code) in turn, and set the successful prompt once every four times
2. Scan following barcode“Complete setup multiple Prefixes/suffixes”



**Complete setup multiple Prefixes/suffixes**

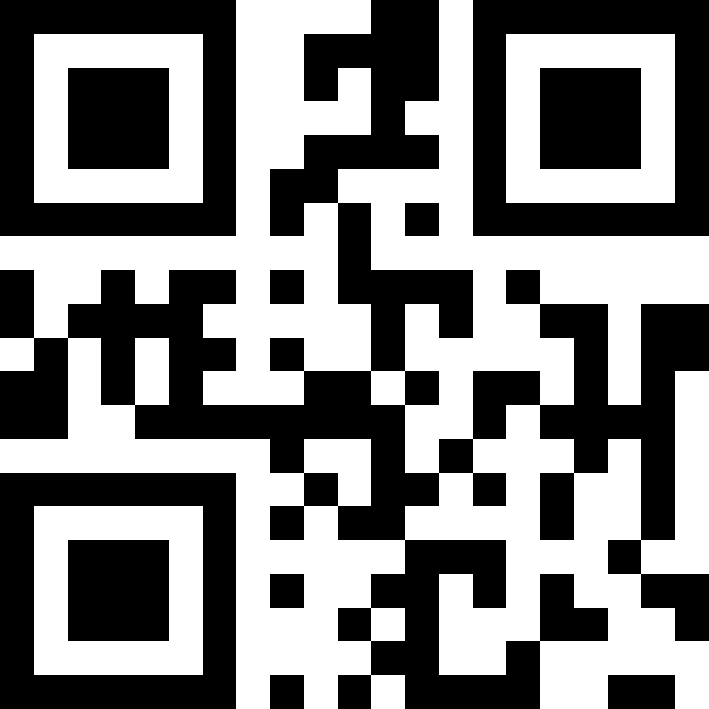
* **suffixes**

**（1）**Scan following barcode“set multiple suffixes”



连续设置多个后缀

1. Next scan four [Numeric Bar Codes](#_Appendix 1： numbered bar code) in appendix,Scan the [Numeric Bar Codes](#_Appendix 1： numbered bar code) in turn, and set the successful prompt once every four times
2. Scan following barcode“Complete setup multiple Prefixes/suffixes”



**Complete setup multiple Prefixes/suffixes**

* **Prefixes/suffixes take effect**



**\*Output Decoding Data Only**



**Data+suffixes**



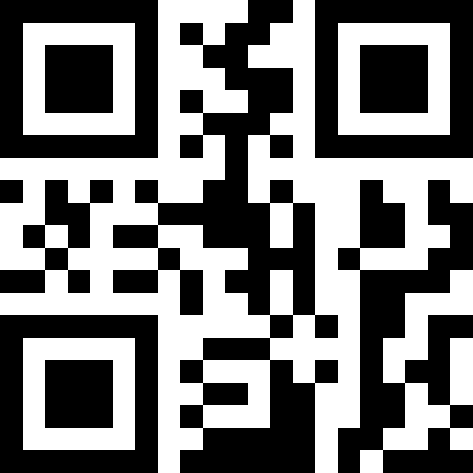
**Prefixes+data**



**Prefixes+data+suffixes**

## Hide data

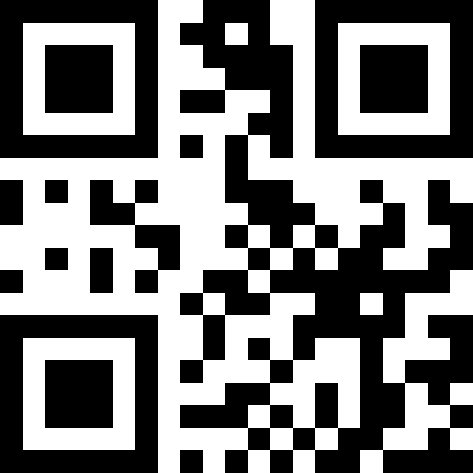
## Hide Head Data

**\*Disable enable**

**Set Hidden Number**

range 1-255. Scan the following barcode,Next scan three [Numeric Bar Codes](#_Appendix 1： numbered bar code) in appendix. For example, if you need to hide 16 characters, scan three [Numeric Bar Codes](#_Appendix 1： numbered bar code) in turn: 0 1 6



Hide Head Data-head

## Hide intermediate  data

**\*Disable enable**

**Sets the start position of hidden intermediate data**

Sets the start position of hidden intermediate data, range 1-255.Scan the following barcode,Next scan three [Numeric Bar Codes](#_Appendix 1： numbered bar code) in appendix, for example, to hide the data after the third character(the fourth begins to hide),scan three [Numeric Bar Codes](#_Appendix 1： numbered bar code) in turn: 0 0 3



start position of hidden intermediate data

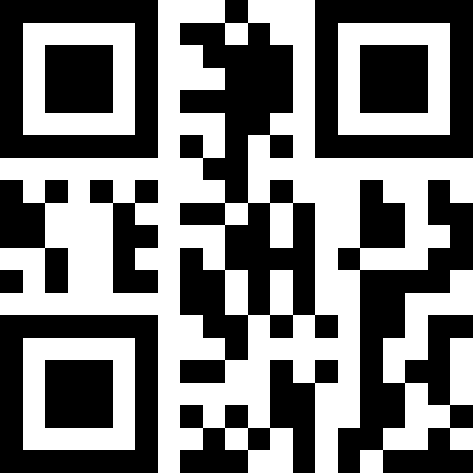
**Set Hidden Number**

range 1-255. Scan the following barcode,Next scan three [Numeric Bar Codes](#_Appendix 1： numbered bar code) in appendix. For example, if you need to hide 16 characters, scan three [Numeric Bar Codes](#_Appendix 1： numbered bar code) in turn: 0 1 6



Set Hidden Number-intermediate

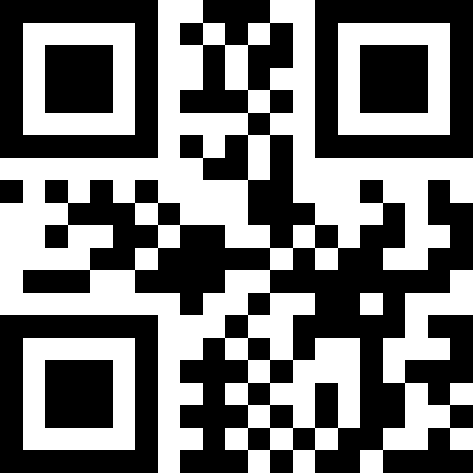
## Hide tail data

**\*Disable enable**

**Set Hidden Number**

range 1-255. Scan the following barcode,Next scan three [Numeric Bar Codes](#_Appendix 1： numbered bar code) in appendix. For example, if you need to hide 16 characters, scan three [Numeric Bar Codes](#_Appendix 1： numbered bar code) in turn: 0 1 6



Set Hidden Number-tail

## STX&ETX

\*Disable STX

ETX STX+ETX

# 七、Code Enable/Disable

## 1d code master switch

enable \*disable

## 2d code master switch

enable \*disable

## 1D Reverse code reading

** **

enable \*disable

## UPC-A



**\*enable**

****

**disable**



**Do not transmit UPC-A check bit**



**\*transmit UPC-A check bit**

## UPC-A additional code

### UPC-A 2 additional code



**enable**



**\*disable**

### UPC-A 5 additional code



enable



\*disable

### UPC-A Must read additional code



enable



\*disable

## UPC-E

****

**\*enable**

****

**disable**



**Do not transmit UPC-E check bit**

****

**\* transmit UPC-E check bit**

## UPC-E additional code

### UPC-E 2 additional code



**enable**



**\*disable**

### UPC-E 5 additional code



**enable**



\***disable**

### UPC-E Must read additional code



**enable**



\***disable**

## UPC-E transfer UPC-A



enable



\*disable

## UPC-A transfer EAN-13



enable



\*disable

## EAN-8



\* Enable

****

**Disable**

## EAN-8 additional code

### EAN-8 2 additional code



**enable**



**\*disable**

### EAN-8 5 additional code



enable



\*disable

### EAN-8 Must read additional code



enable



\*disable

## EAN-13



\* Enable

****

**Disable**

## EAN-13 additional code

### EAN-13 2 additional code



**enable**



**\*disable**

### EAN-13 5 additional code

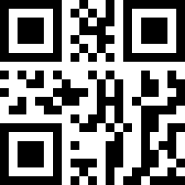


enable



\*disable

### EAN-13 Must read additional code



enable



## \*disable

## CODE 128



\* Enable



Disable

## GS1-128



\* enable



**disable**

## ISBT-128



\* enable



**disable**

## Interleaved 2 of 5

### I 2 of 5 **enable/**disable

****

**\*enable**



disable

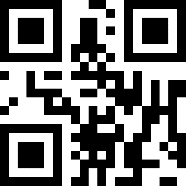
### **Set Lengths for Interleaved 2 of 5**

For example, todecode **Interleaved 2 of 5** symbols containing between 4 and 12 characters

first scan **Interleaved 2 of 5-Length Within Range**, then scan **0**, **4**, **1** and **2** (single digit numbers must be preceded by a leading zero). *[Numeric Bar Codes](#numeric)* is in appendix. To change the selection or cancel an incorrect entry, scan *[Cancel](#cancel)* [in appendix](#cancel)*[.](#cancel)*

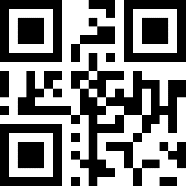
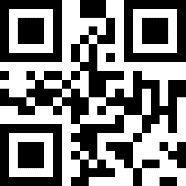


**I 2 of 5 - Length Within Range**



**I 2 of 5 - Any Length**

### transmit Interleaved 2 of 5 check bit

enable \*disable

## Matrix 2 of 5

### Matrix 2 of 5 **enable/**disable

****

**enable**

****

**\*disable**

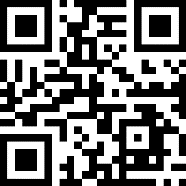
### **Set Lengths for Matrix 25**

For example, todecode Matrix 25 symbols containing between 4 and 12 characters

first scan **Matrix 25 Length Within Range**, then scan **0**, **4**, **1** and **2** (single digit numbers must be preceded by a leading zero). *[Numeric Bar Codes](#numeric)* is in appendix. To change the selection or cancel an incorrect entry, scan *[Cancel](#cancel)* [in appendix](#cancel)*[.](#cancel)*

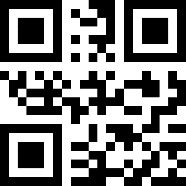
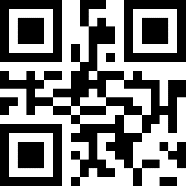


**Matrix 25 - Length Within Range**



**Matrix 25 - Any Length**

### transmit Matrix 2 of 5 check bit

Enable \*disable

## Industrial 2 of 5

### Industrial 2 of 5 **enable/**disable

****

**enable**

****

**\*disable**

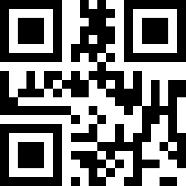
### **Set Lengths for Industrial 2 of 5**

For example, todecode **Industrial 2 of 5** containing between 4 and 12 characters

first scan **Industrial 2 of 5 Length Within Range**, then scan **0**, **4**, **1** and **2** (single digit numbers must be preceded by a leading zero). *[Numeric Bar Codes](#numeric)* is in appendix. To change the selection or cancel an incorrect entry, scan *[Cancel](#cancel)* [in appendix](#cancel)*[.](#cancel)*



**D 2 of 5 - Length Within Range**



**D 2 of 5 - Any Length**

## Standard 2 of 5

### Standard 2 of 5 **enable/**disable

****

**enable**

****

**\*disable**

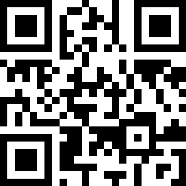
### **Set Lengths for Standard 2 of 5**

For example, todecode **Standard 2 of 5** containing between 4 and 12 characters

first scan **Standard 2 of 5 Length Within Range**, then scan **0**, **4**, **1** and **2** (single digit numbers must be preceded by a leading zero). *[Numeric Bar Codes](#numeric)* is in appendix. To change the selection or cancel an incorrect entry, scan *[Cancel](#cancel)* [in appendix](#cancel)*[.](#cancel)*

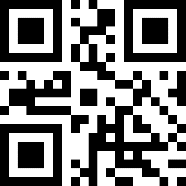
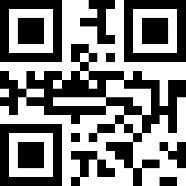
****

**Standard 25 - Length Within Range**



**Standard 25 - Any Length**

### transmit Standard 2 of 5 check bit

enable \*disable

## Code 39

### code39 enable/disable

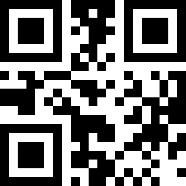
****

**\*enable**

****

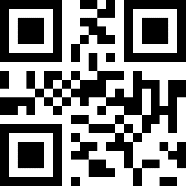
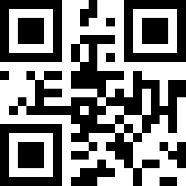
**disable**

### Code39 Length

****

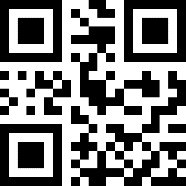
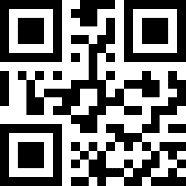
Any Lnegth code39

### Code39 check bit

transmit \*do not transmit

### Transmit Code 39 start and ending symbol

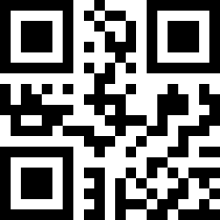
 

\*disable enable

## Code 39 Full ASCII

****

Enable

****

\* Disable

## Code 32

### code32 enable/disable

****

Enable

****

\* disable

### code32 add prefix A

****

enable

****

\* disable

## Code 93

****

**enable**

****

**\* disable**

## Code 11

### code11 enable/disable

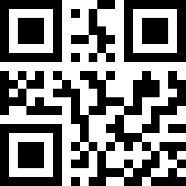
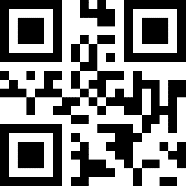
****

Enable

****

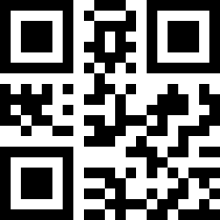
**\*** disable

### transmit check bit

enable **\*** disable

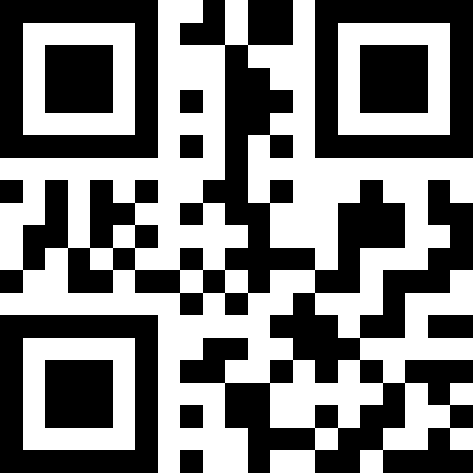
## Codabar

****

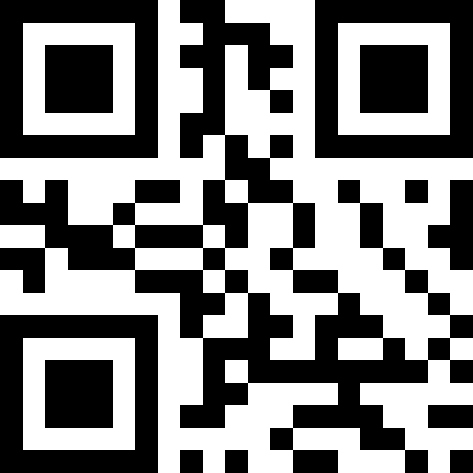
**enable**

****

**\*** disable

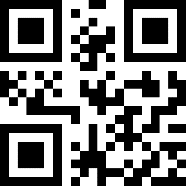


disable start and ending symbol

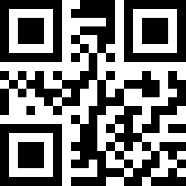
****

**\*** enable start and ending symbol

## PLESSEY



enable

**** \*disable

## MSI

### MSI enable/disable

****

**enable**

****

**\* disable**

### Length



any Length can read

## GS1-Databar



**enable**

****

**\* disable**

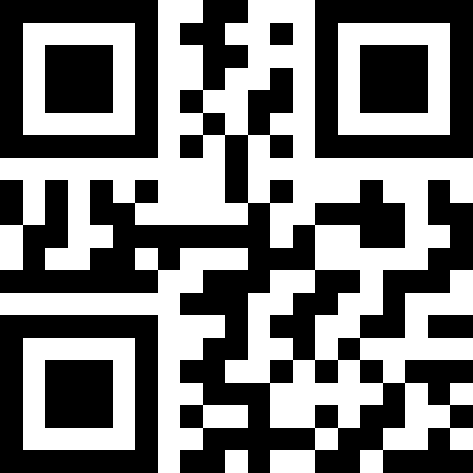
## ITF14



enable

****

**\* disable**



Transmit check bit

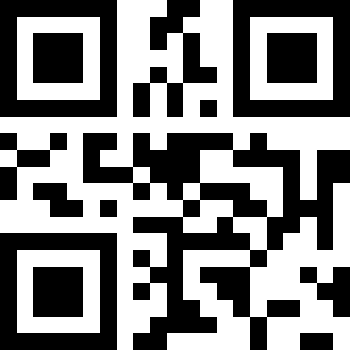
****

**\*** do not transmit check bit

## GS1 composite code



enable

****

**\* disable**

## QR Code

### QR code enable/disable

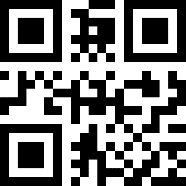
****

**\* enable**

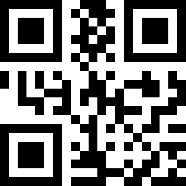
****

**disable**

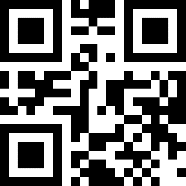
### read two QR codes at the same time



Read only one code

****

Read only two code

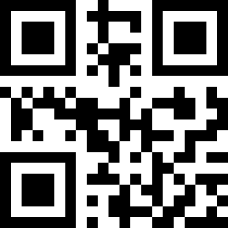


Read one or two code

### Read reverse QR code



\*only read Normal code

****

**Read** Normal/reverse code

## Data Matrix

### Data Matrix enable/disable

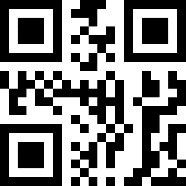
****

**\* enable**

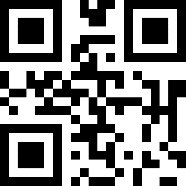
****

**disable**

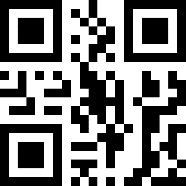
### read two Data Matrix codes at the same time



Read only one code



**Read only two code**



Read one or two code

### Read reverse Data Matrix



\*only read Normal code



Only Read reverse code



Read Normal/reverse code

## PDF 417

### PDF417 enable/disable

****

**\* enable**



disable

### read two PDF417 codes at the same time



Read only one code

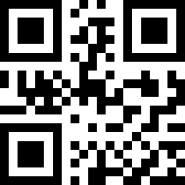


Read only two code



Read one or two code

### Read reverse PDF417



\*only read Normal code

****

Only Read reverse code



Read Normal/reverse code

## Aztec code

****

**enable**



\*disable

## Maxi code

****

**enable**



\*disable

## Hanxin code

****

**encode**



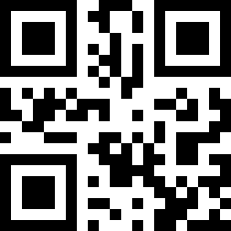
\*disable

# Appendix 1：numbered bar code

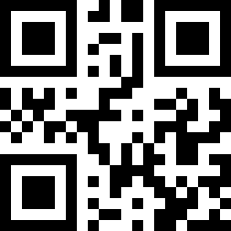
For parameters requiring specific numeric values, scan the appropriately numbered bar code(s).



**0**



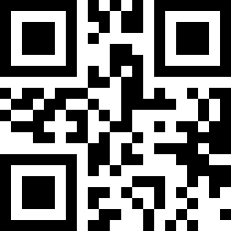
**1**



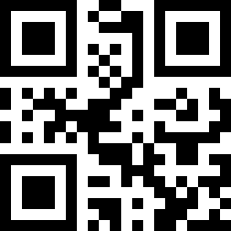
**2**



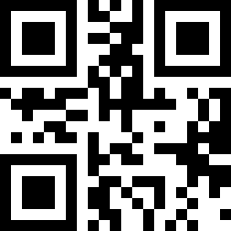
**3**



**4**



**5**



**6**



**7**



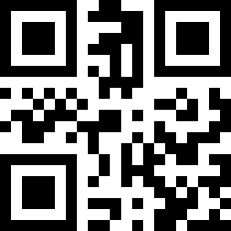
**8**



**9**

# Appendix 2：CANCEL

To change the selection or cancel an incorrect entry, scan the bar code below.



**Cancel**

# Appendix 3：Code ID

|  |  |
| --- | --- |
| **Code charactar** | **Code type** |
| A | UPC-A, UPC-E, EAN-8, EAN-13 |
| B | Code 39, Code 32 |
| C | Codabar |
| D | Code 128, ISBT 128 |
| E | Code 93 |
| F | Interleaved 2 of 5/ITF, ITF14 |
| G | Industrial 2 of 5, Standard 2 of 5 |
| H | CODE11 |
| J | MSI, MSI/Plessey |
| K | UCC/EAN-128/GS1-128 |
| L | Bookland EAN/ISBN，ISSN |
| R | GS1 DataBar-14, GS1 DataBar Limited, GS1 DataBar Expanded, RSS |
| V | Matrix 25 |
| r | PDF417 |
| u | DataMatrix(DM) |
| q | QR |
| a | Aztec Code |
| x | Maxi Code |
| c | HanXin |

# Appendix 4：Character comparison table

|  |  |  |  |
| --- | --- | --- | --- |
| **Scan Value** | **HEX Value** | **Keyboard Function Key** | **Keyboard Ctrl Combination Key** |
| 1000 | 00h | Null | CTRL 2 |
| 1001 | 01h | Keypad Enter | CTRL A |
| 1002 | 02h | Caps lock | CTRL B |
| 1003 | 03h | Right Arrow | CTRL C |
| 1004 | 04h | Up Arrow | CTRL D |
| 1005 | 05h | Null | CTRL E |
| 1006 | 06h | Null | CTRL F |
| 1007 | 07h | Enter | CTRL G |
| 1008 | 08h | Left Arrow | CTRL H |
| 1009 | 09h | Horizontal Tab | CTRL I |
| 1010 | 0Ah | Down Arrow | CTRL J |
| 1011 | 0Bh | Vertical Tab | CTRL K |
| 1012 | 0Ch | Backspace | CTRL L |
| 1013 | 0Dh | Enter | CTRL M |
| 1014 | 0Eh | Insert | CTRL N |
| 1015 | 0Fh | Esc | CTRL O |
| 1016 | 10h | F11 | CTRL P |
| 1017 | 11h | Home | CTRL Q |
| 1018 | 12h | Print Screen | CTRL R |
| 1019 | 13h | Delete | CTRL S |
| 1020 | 14h | tab+shift | CTRL T |
| 1021 | 15h | F12 | CTRL U |
| 1022 | 16h | F1 | CTRL V |
| 1023 | 17h | F2 | CTRL W |
| 1024 | 18h | F3 | CTRL X |
| 1025 | 19h | F4 | CTRL Y |
| 1026 | 1Ah | F5 | CTRL Z |
| 1027 | 1Bh | F6 | CTRL [ |
| 1028 | 1Ch | F7 | CTRL \ |
| 1029 | 1Dh | F8 | CTRL ] |
| 1030 | 1Eh | F9 | CTRL 6 |
| 1031 | 1Fh | F10 | CTRL - |
| 1032 | 20h | Space | Space |
| 1033 | 21h | /A | ! |
| 1034 | 22h | /B | ‘ |
| 1035 | 23h | /C | # |
| 1036 | 24h | /D | $ |
| 1037 | 25h | /E | % |
| 1038 | 26h | /F | & |
| 1039 | 27h | /G | ‘ |
| 1040 | 28h | /H | ( |
| 1041 | 29h | /I | ) |
| 1042 | 2Ah | /J | \* |
| 1043 | 2Bh | /K | + |
| 1044 | 2Ch | /L | , |
| 1045 | 2Dh | - | - |
| 1046 | 2Eh | . | . |
| 1047 | 2Fh | / | / |
| 1048 | 30h | 0 | 0 |
| 1049 | 31h | 1 | 1 |
| 1050 | 32h | 2 | 2 |
| 1051 | 33h | 3 | 3 |
| 1052 | 34h | 4 | 4 |
| 1053 | 35h | 5 | 5 |
| 1054 | 36h | 6 | 6 |
| 1055 | 37h | 7 | 7 |
| 1056 | 38h | 8 | 8 |
| 1057 | 39h | 9 | 9 |
| 1058 | 3Ah | /Z | : |
| 1059 | 3Bh | %F | ; |
| 1060 | 3Ch | %G | < |
| 1061 | 3Dh | %H | = |
| 1062 | 3Eh | %I | > |
| 1063 | 3Fh | %J | ? |
| 1064 | 40h | %V | @ |
| 1065 | 41h | A | A |
| 1066 | 42h | B | B |
| 1067 | 43h | C | C |
| 1068 | 44h | D | D |
| 1069 | 45h | E | E |
| 1070 | 46h | F | F |
| 1071 | 47h | G | G |
| 1072 | 48h | H | H |
| 1073 | 49h | I | I |
| 1074 | 4Ah | J | J |
| 1075 | 4Bh | K | K |
| 1076 | 4Ch | L | L |
| 1077 | 4Dh | M | M |
| 1078 | 4Eh | N | N |
| 1079 | 4Fh | O | O |
| 1080 | 50h | P | P |
| 1081 | 51h | Q | Q |
| 1082 | 52h | R | R |
| 1083 | 53h | S | S |
| 1084 | 54h | T | T |
| 1085 | 55h | U | U |
| 1086 | 56h | V | V |
| 1087 | 57h | W | W |
| 1088 | 58h | X | X |
| 1089 | 59h | Y | Y |
| 1090 | 5Ah | Z | Z |
| 1091 | 5Bh | %K | [ |
| 1092 | 5Ch | %L | \ |
| 1093 | 5Dh | %M | ] |
| 1094 | 5Eh | %N | ^ |
| 1095 | 5Fh | %O | \_ |
| 1096 | 60h | %W | ‘ |
| 1097 | 61h | +A | a |
| 1098 | 62h | +B | b |
| 1099 | 63h | +C | c |
| 1100 | 64h | +D | d |
| 1101 | 65h | +E | e |
| 1102 | 66h | +F | f |
| 1103 | 67h | +G | g |
| 1104 | 68h | +H | h |
| 1105 | 69h | +I | i |
| 1106 | 6Ah | +J | j |
| 1107 | 6Bh | +K | k |
| 1108 | 6Ch | +L | l |
| 1109 | 6Dh | +M | m |
| 1110 | 6Eh | +N | n |
| 1111 | 6Fh | +O | o |
| 1112 | 70h | +P | p |
| 1113 | 71h | +Q | q |
| 1114 | 72h | +R | r |
| 1115 | 73h | +S | s |
| 1116 | 74h | +T | t |
| 1117 | 75h | +U | u |
| 1118 | 76h | +V | v |
| 1119 | 77h | +W | w |
| 1120 | 78h | +X | x |
| 1121 | 79h | +Y | y |
| 1122 | 7Ah | +Z | z |
| 1123 | 7Bh | %P | { |
| 1124 | 7Ch | %Q | | |
| 1125 | 7Dh | %R | } |
| 1126 | 7Eh | %S | ~ |
| 1127 | 7Fh |  | Undefined |