E2100 Barcode Reading Engine

User Manual

Disclaimers

Please read all the contents of this manual carefully before using the products described in this manual to ensure safe and effective use of the products. It is recommended that this manual be kept in a safe place for the next time you use it for reference.

Warnings

Please do not disassemble the product or tear the seal label on the product by yourself, otherwise our company will not be responsible for warranty or replacement of the product. The pictures in this manual are for reference only. If there is any discrepancy between individual pictures and actual products, please refer to the actual products. For product improvement and update, the company reserves the right to modify the document at any time without notice.

Our company has the final right to interpret this manual.

Service Information

If you need more technical support, please call or email us and we will be glad to serve you.

Version Record

User manual version number	Version Description	Release Date
V1.0	Initial Version	2022/3/23

Catalog

Preface

Introduction

This manual provides users with a detailed introduction to the use of the E2100 and related precautions.

Chapter outline

Chapter 1 About E2100	
Chapter 2 System Setup	Introduce the main setting method of the scanner and the system parameters setting
Chapter 3 Reading Mode Settings	List the supported reading modes and provide the corresponding parameter setting codes
Chapter 4 Communication Setup	Describes the setting of communication parameters
Chapter 5 Input/Output Data Formatting	Introduces how to use barcode information with set input/output data format
Chapter 6: Decode Library Setup	Lists all the code systems supported and provides the relevant parameter setting codes
Appendix	Provide common setting codes and factory default parameter table, etc.

Brochure Legend

Note the hint that the user needs to pay strong attention to the content here

Tips to help users better understand the content of the document

Examples to help users become familiar with the operation

Chapter 1 About E2100

Introduction

Our product model E2100, to which this manual applies, uses 2D image scanning to recognize 1D and 2D barcodes. They apply a full set of our self-developed patented technology, with powerful recognition performance, fast and flexible scanning speed.

This section will introduce the use of the product step by step with pictures, please compare the actual product you have purchased when reading the document, so that it is more conducive to your understanding of this document. This section is suitable for general users, maintenance personnel and software developers.

Main features

* Completely self-developed, with a full set of patents, plug-and-play without installing drivers.

* With 32-bit main control chip equipped with patented software, it can smoothly decode reflective, wrinkled, blurred, and color barcodes, and can decode normally in strong light

and dark environment.

Open the package

Open the package and remove the product and accessories. Check that all items are complete against the packing list and determine if there are any damaged parts. If there are any damaged or missing parts, please keep the original packaging and contact your supplier for after-sales service.

Communication Port

The product must be connected to a host computer in order to operate. The host computer can be a PC, a POS machine or an intelligent terminal with any of the USB or RS-232 interfaces.

USB	USB port on the host	
RS-232	RS-232 interface on the host computer	

The scanner will be equipped with the corresponding cable according to the customer's order interface, if you need to switch to other interfaces, please consult sales to purchase the corresponding cable.

Power on, power off, standby and restart

Power on: Connect the product to the host, and the product will automatically power on and be in working condition.

Shutdown: Remove the data cable connected to the product; remove the USB cable plugged into the host computer/the power adapter plugged into the RS-232 data.

Reboot: If the product appears to be dead or unresponsive, please turn it off and on again to achieve a reboot.

Maintenance and Care

*The literate window must be kept clean and the supplier is exempt from warranty liability

for damage caused by improper maintenance.

* Avoid abrasion or scratching of the reading window by hard and rough objects.

* Removal of smudges on the identification window with a brush.

*Please use a soft cloth to clean the window. such as eyeglass cleaning cloths and lens-specific cleaning cloths.

* Prohibit the spraying of any liquid on the identification window.

* The use of any cleaning agent other than cleaning water is prohibited.

Code Reading Tips

If the barcode is small, you should make the barcode close to the product scanning window; if the barcode is large, you should make the barcode a little far from the product scanning window, so that it is easier to read the barcode correctly.

If the barcode is highly reflective (e.g., coated surface), you may need to tilt the barcode at an angle in order to successfully scan the barcode.

Example of sweeping code.

Chapter 2 System Setup

Introduction

This product is mainly used to set options and functions by reading a series of special barcodes. In this section, we will introduce in detail the options and functions available for users to set and provide the corresponding setting codes.

This method of setting up a scan is relatively straightforward and easy to understand, making it user-friendly.

Example of a setup code

This is the logo for the sweep configuration code function to start the setup (default) barcode function. The logo consists of two parts.

1. Set the barcode part of the code
2. Set the name of the option or function, such as Startup Settings (default).

Use the setup code

Bar code setting code

Activation of settings: activation of the setting code function, which allows the scanner to be set up by reading the setting code.

Exit Setup: To exit the setup code function.

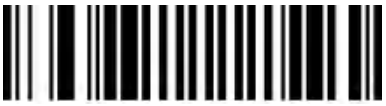
Startup settings (default)

Exit Settings

Command setting code

The command setting is valid with the highest authority, and the barcode setting cannot be modified. Please refer to the Programming Instruction Manual for detailed instruction settings.

Restore factory settings



Restore factory settings

Restore factory settings - Inverted color barcode

Read version number

Retrieve the current device version number.

Read version number

Product User Settings

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

The user default settings also contain all property settings for the scanner and the user default settings will be saved and not lost unless the current settings are re-saved as user default settings.

Save User Defaults: will save the current user default settings and overwrite the previously

set user default settings.

Restore User Defaults: will cause the scanner to switch to the user default settings.

Save user default settings

Restore user default settings

Sound settings

Scanner sounds can be divided into: Setup Success Beep, Power On Beep, Decode Success Beep and Warning Beep. This section will provide detailed setup instructions for the scanner sounds.

Set the success tone setting

Bar code setting success beep setting

Enabled (default)

Close

Command setting success beep setting

Open

Off (default)

Buzzer frequency setting

(a) The buzzer frequency is only related to the frequency of the successful decoding beep, where 2.7K is the default value.

2.0K

2.4K

2.7K (default)

Power-on tone setting

Off: allows you to disable the scanner's power-on beep from sounding.

Turn on: You can restore the boot tone prompt, where the boot tone is turned on by default.

Enabled (default)

Close

Decoding success beep setting

Decoding success beep switch

Enabled (default)

Close

Decoding success beep volume (duty cycle)

Volume High (35) (default)

Volume in (20)

Low volume(10)

Tips

Decode success tone volume (duty cycle), default value is 35, settable range: 1~50

Warning tone setting

For abnormal device work, such as: upload data failure, transcoding failure, etc.

Enabled (default)

Close

Lighting settings

Normal (default): In this mode, the illumination status is controlled by the "read mode setting".

Normally open: the lighting status is always open, not controlled by "reading mode setting".

Always off: The lighting status is always off, not controlled by "reading mode setting".

Normal (default)

Always on

normal close

Positioning light settings

Normal (default): In this mode, the positioning lamp is controlled by the "read mode" condition.

Normally on: The positioning light state is always on, not controlled by the "reading mode" condition.

Normally off: the positioning light state is always on, not controlled by the "reading mode" condition.

Normal (default)

Always on

normal close

Indicator Settings

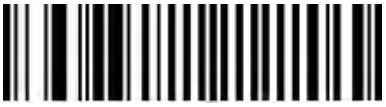
The indicator control signal will be set to high level (default low level) when decoding is successful, and the duration is affected by the continuous sound of the buzzer.

Indicator light switch

Enabled (default)

Close

Indicator level setting



Level reversal

Sleep mode

Sleep mode switch

Open

Off (default)

Sleep mode is valid only in level trigger mode and command mode, not in sense trigger mode and continuous mode.

Enter the sleep time setting

The time in seconds when entering hibernation. The default value is 1 second, the settable time range: 1~99.

Level-triggered mode: Start calculating the resting time after releasing the key.

Command mode: Start counting the sleep time after no correct command is received.

1s (default)

5s

10s

Immediate dormancy

If the hibernation mode is not enabled or the reading mode is not correct, the setting will fail.

Custom sleep time setting

This setting is used to determine how much time the scanner will be idle before going to sleep, the setting range is 1s~3600s. Set the time to go to sleep with Appendix 1.

Customized sleep time

Example

Set custom hibernation time to '10s' (default: 1s)

1. Read "Startup Settings"
2. Read the "Custom enter sleep time (5s~3600s)" setting code
3. Read data code: "1" "0" (see Appendix 1)
4. Read "Save" (see Appendix 1 to save or cancel)
5. Read "Exit Settings"

Chapter 3 Reading mode settings

Reading mode setting

Induction trigger mode

The induction trigger enters the reading state until the code is read successfully or stops reading after the time set by "**one time reading timeout**". When a new barcode is presented, it will re-enter the reading state. In this mode, the "Re-code interval setting" can be used to prevent the same barcode from being read more than once.

Induction trigger mode

Level trigger mode (default)

Enter the reading state when the trigger key pin is at low level. Press and hold the trigger key to start reading code. After reading the code successfully or releasing the trigger key, the code reading ends and the next decoding needs to re-enter the low level state.

Level trigger mode (default)

Continuous Mode

When the code setting mode is switched to this mode, it enters the continuous reading state. In this mode, "Re-code interval setting" can be used to prevent the same

barcode from being read more than once.

Continuous Mode

Command Mode

The "command mode" can only be used to control the device into operation by means of "commands". For details, please refer to the instruction manual "Programming Instruction Manual".

Tips

Command mode can only be entered with RS-232 serial port, USB CDC serial port and HID POS interface.

In "command mode", it is not allowed to change the communication interface. If you need to change it, please switch to other reading mode first.

Command mode reading setting

By sending "start reading" command to enter the reading state, the successful decoding will exit the reading state, or by sending "stop reading" command to exit the reading state. Please refer to "Programming Instruction Manual" for setting method and specific instructions.

One read timeout

Valid only in sense trigger mode, level trigger mode and command mode.

One time reading timeout setting

3s (default)

7s

10s

Customize one read timeout

Customize the timeout for one reading, the unit is 0.1 seconds. The default value is 30 (3 seconds), and when set to 0, it means the device is always in the reading state, and the settable time range: 30~999.

Customize one read timeout

Example

Set a custom timeout of (10s) for one reading, which can be set by reading the following barcodes in order.

1、Read "Startup Settings"

2、Read the "custom timeout for one reading" setting code

3, read data code: "1" "0" "0" (see Appendix 1)

4, read "Save" (see Appendix 1 Save or Cancel)

5. Read "Exit Settings"

Repeat code interval setting

Used to prevent the same barcode from being read twice in a row, the reread interval sets the minimum time interval that allows consecutive barcodes of the same type and data to be read. This delay is only used in sense-triggered mode and continuous reading mode.

The unit of recode time is 1ms, the default value is 500ms. when set to 0, it means no recode time, the settable time range: 0~10000ms.

0ms

500ms (default)

1s

Custom re-code interval

Example

Set the recode interval to (1000ms), which can be set by reading the following barcodes in order.

1、Read "Startup Settings"

2、Read the "custom re-code interval" setting code

3, read data code: "1" "0" "0" "0" (see Appendix 1)

4, read "Save" (see Appendix 1 Save or Cancel)

5. Read "Exit Settings"

Chapter 4 Communication Settings

Introduction

When connecting the scanner and the host, there are various connection methods to choose from, while the default method can be set according to the actual needs of the customer, and this section will introduce the settings of the relevant communication methods in detail.

Communication interface settings

USB keyboard (default)

The scanner can be switched to USB keyboard mode when the USB cable is connected. In this mode, the scanner becomes a virtual keyboard, and the scanner data is received as if it were a real keyboard input. The scanner decodes the data and sends it by hitting each key in the virtual keyboard that corresponds to the data.

USB Keyboard

USB CDC serial port

When using a USB connection and at the same time wanting the host side to receive data via serial, the USB virtual serial method should be used. In terms of the system interface on the host side, the scanner is equivalent to connecting to the host via the serial port method.

USB CDC serial port

RS-232 serial port

RS-232 communication, also called serial communication method, can be used. When the scanner is connected to the host computer using a serial line, both parties need to set the same communication parameters to ensure proper communication, and the baud rate (i.e., transmission rate) and check character of the communication need to be set.

RS-232 serial port

HID POS interface

USB HID class communication use.

HID POS interface

USB keyboard

USB multi-country keyboard

There are differences in keyboard key layout and symbols, etc. corresponding to different countries' languages, so the scanner can be virtualized into different countries' keyboard systems as needed, and the default is the English (US) keyboard.

English (US) (default)

English (UK)

Italian (Italy)

Spanish (Brazil)

Portuguese (Portugal)

Portuguese (Brazil)

French (France)

German (Austria)

German (Switzerland)

Turkish Q

Turkish F

Japanese (Japan)

Japanese (Japan) needs to be switched to English status.

USB keyboard send speed setting

If there is missed data on the receiving end, the sending speed should be turned down.

USB keyboard send speed, unit is milliseconds (ms). The default value is 5ms, the settable time range: 0ms~200ms.

5ms (default)

10ms

20ms

Customize USB keyboard sending speed

Example

Setting the USB keyboard sending speed (10ms) can be set by reading barcodes in the following order.

1. Read "Startup Settings".
2. read the "Custom USB keyboard send speed setting" setting code.
3. Read data code: "1" "0" (see Appendix 1).
4. read "Save" (see Appendix 1 to save or cancel).
5. Read "Exit Settings".

Control characters

This function is for "USB HID keyboard" in "USB HID mode" communication interface, all the contents sent. For details of the escaped content, please refer to Appendix 4: "Controlling Escaped Characters".

Off (default)

Control + ASCII mode (Ctrl+ASCII)

Alt + Keypad mode (Alt + Keypad)

Chinese character output mode

English: output of letters and numbers through the keyboard, without entering the conversion output of the code.

Simplified Chinese (Notepad/excel) (default): Notepad/excel for the output of Chinese characters in encoded format (GBK encoding).

Simplified Chinese (Word): Word carries out the output of Chinese characters in code format (unicode encoding).

Simplified Chinese (linux): linux performs the output of Chinese characters in the encoding format (unicode encoding).

English

Simplified Chinese (notepad/excel) (default)

Simplified Chinese (Word)

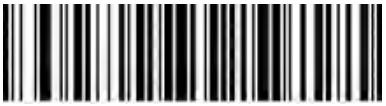
Simplified Chinese (linux)

Polling speed

The access period of the PC to the HID device, in milliseconds (ms). The default value is 5ms, the settable time range: 1ms~255ms.

1ms

5ms **(default)**



10ms

Customized polling speed

Example

Set the polling speed to (12ms), which can be set by reading barcodes in the following order.

1. Read "Startup Settings".

2. read the "Custom Polling Speed" setting code.

3. Read data code: "1" "2" (see Appendix 1).

4. read "Save" (see Appendix 1 to save or cancel).

5. Read "Exit Settings".

Serial communication settings

Serial port baud rate setting

The baud rate is the number of bits per second that are transmitted for serial data communication. The baud rate used by the scanner and the data receiving host must be consistent to ensure accurate data transmission. The scanner supports the baud rates listed below, and the default is 9600bps.

Baud rate 1200

Baud rate 4800

Baud rate 9600 (default)

Baud rate 14400

Baud rate 19200

Baud rate 38400

Baud rate 57600

Baud rate 115200

Serial data bit setting (not enabled)

Serial port stop bit setting

The transferred data is 8 data bits, and the stop bit can be selected.

The stop bit is located at the end of each byte transmitted and is used to mark the completion of this byte transmission to start receiving the next byte of data. The default setting is 1 stop bit. If a longer stop time is required, 2 stop bits can be set.

Stop bit 1 (default)

Stop bit 2

Serial port parity bit setting

Scanners can choose different serial parity bit settings (also called parity) during transmission using the serial port, but they must be the same as the host's parity character type.

Select odd parity: If the number of "1" in the transmitted data is odd, the parity character is 0.

Select even parity: If the number of "1" in the transmitted data is even, the parity character is 0.

Select no parity: no parity characters are sent, default no parity.

No checksum (default)

Odd calibration

Even Check

Chapter 5 Input/Output Data Format Setting

Introduction

Custom prefix and suffix length: (1~10) characters, if set to "On", "Code ID prefix", "Custom prefix", "End suffix", etc. will be added before and after the decoding information. "Custom suffix", "End suffix", etc.

Note: The maximum length of a single data is 512 characters.

Input and output data encoding format

Input data encoding format

Automatic: recognition of UTF-8 and GBK barcodes.

UTF-8 encoding: only UTF-8 barcodes are recognized.

GBK code: Only GBK barcode is recognized.

Automatic (default)

UTF-8 encoding

GBK encoding

Output data encoding format

Original encoding format

UTF-8 encoding

GBK encoding (default)

Note: Only USB CDC, RS-232 and HID POS interfaces are valid.

Prefix and suffix output order

Code ID + prefix + data + suffix + terminator (default)

Prefix + Code ID + Data + Suffix + Terminator

Prefix Settings

Custom prefixes add a user-defined string before the decoded information. For example, if you allow to add a custom prefix and set the prefix to the string "AB", after reading the barcode with the data "123", the scanner adds the string "AB" before the string "123", and the host side receives "AB123". After the barcode reading data is "123", the scanner will add the string "AB" before the string "123", and the host side will receive "AB123".

If set to "Off", only the data information of barcode will be in the decoded information, no prefix, and the default value is to turn off the custom prefix output.

ATT Note: All barcodes share a common prefix data.

Customized prefixes

Open

Off (default)

Modify custom prefixes

Example Set the custom prefix to 'a' (the hex value of a is 0x61)

1. Read "Startup Settings"

2. Read the "Modify Custom Prefix" setting code

3. Check the ASCII code of the character "a": the ASCII code of "a" is "0x61" (see Appendix 5)

4. Read data code: "6" "1" (see Appendix 1)

5. Read "Save" (see Appendix 1 to save or cancel)

6. Read "Exit Settings"

Suffix Settings

The custom suffix adds a user-defined string after the decoded information. For example, it is allowed to add a custom suffix and set the suffix to the string "AB", after reading the barcode with the data of "123", the scanner adds the string "AB" after the string "123", and the host side receives "123AB". After the barcode reading data is "123", the scanner will add the string "AB" after the string "123", and the host side will receive "123AB".

If set to "Off", only the barcode data information will be in the decoded information, no suffix, and the default value is to turn off the custom suffix output.

ATT Note: All barcodes share a common suffix data.

Custom Suffixes

Open

Off (default)

Modify custom suffix

Example Set the custom suffix to 'a' (the hex value of a is 0x61)

1. Read "Startup Settings"

2. Read the "Modify Custom Suffix" setting code

3. Check the ASCII code of the character "a": the ASCII code of "a" is "0x61" (see Appendix 5)

4. Read data code: "6" "1" (see Appendix 1)

5. Read "Save" (see Appendix 1 to save or cancel)

6. Read "Exit Settings"

Code ID setting

The user can use Code ID to identify the barcode type and the Code ID corresponding to each barcode type is customizable. The Code ID for all barcodes is 1 character.

Code ID Output Switch

Close CODE ID (default)

Turn on CODE ID

Custom Code ID

Example

Modify the Code ID of Codabar (Code ID:0x42) to "Y" (hexadecimal value 0x59).

1. Read "Startup Settings"

2. Read "Custom Code ID"

3. Check the Code ID of the barcode: the Code ID of "Codabar" is "0x42" (see Appendix 2)

4. Check the ASCII code of the character "Y": the ASCII code of "Y" is "0x59" (see Appendix 5)

5. Read data code: "4" "2" "5" "9" (see Appendix 1)

6. Read "Save" (see Appendix 1 to save or cancel)

7. Read "Exit Settings"

Terminator settings

The terminator suffix is used to mark the end of a complete piece of data information. The terminator suffix stands alone and does not participate in any other form of data formatting. The terminator suffix must be the last piece of data sent, and no additional data will be added thereafter.

The ending character can be set to carriage return, line feed, carriage return line feed, tab or ETX, and the default ending character is set to carriage return.

Ending character is Enter (default)

The ending character is a line feed (Down)

The ending character is a carriage return line feed (Enter+Down)

The ending character is the tab character (Tab)

The terminator is ETX

No terminator

Case output settings

Case conversion for characters in a string, prefix and suffix have no effect.

Normal output (default)

Case reversal

All capitalization

All lowercase

Data Editing

Note: The prefix and suffix are not processed, and the prefix and suffix are output normally.

Data editing options

Raw data output (default): No modification is made to the literate data.

If the set length is longer than the length of the read string, the original data will be output. For example, if the length of the string "1234567890" is set to 3, the final output data will be "123".

Intermediate data output: output according to the range of data limited by the "previous data length setting" and "next data length setting", if the sum of the two length values is greater than the length of the read string, the output is empty. For example, if the length of the string "1234567890" is read, and the length of the start/end fields are set to 3 and 4 respectively, the final output data will be "456".

If the set length is longer than the length of the read string, the original data will be output. For example, if the length of the string "1234567890" is set to 3, the final output data will be "890".

The output data is limited according to the data of "Pre-segment data length setting" and "Post-segment data length setting", if the sum of the two length values is greater than the length of the read string, the original data will be output. For example, if the length of the string "1234567890" is read, and the length of the start/end field is set to 3 and 4 respectively, the final output data will be "1237890".

Raw data output (default)

Front-end data output

Intermediate data output

Back-end data output

Front-end and back-end data output

Pre-segment data length setting

The default value is 1, need to cooperate with Appendix 1 to set the length, set the range 1~maximum 512.

Pre-segment data length setting

Example

Set the "Previous data length setting" to 12.

1. Read "Startup Settings"

2. Read "Pre-segment data length setting"

3. Read data code: "1" "2" (see Appendix 1)

4. Read "Save" (see Appendix 1 to save or cancel)

5. Read "Exit Settings"

Back-end data length setting

The default value is 1, need to cooperate with Appendix 1 to set the length, set the

range 1~maximum 512.

Back-end data length setting

Example

Set the "Post data length setting" to 12.

1. Read "Startup Settings"

2. Read "Post-segment data length setting".

3. Read data code: "1" "2" (see Appendix 1)

4. Read "Save" (see Appendix 1 to save or cancel)

5. Read "Exit Settings"

Invoicing function switch

Make sure the option "Simplified Chinese (notepad/excel)" is selected for "Chinese character output mode" before enabling this function

Turn off the invoicing function (default)

Open invoicing function

Output protocol (not enabled)

Get image data (not enabled)

Chapter 6 Decoding Library Settings

Introduction

Each type of barcode has its own unique properties, and the setup codes in this chapter allow you to adjust the scanner to accommodate these property changes.

The fewer barcode types that are turned on, the faster the scanner will read. You can turn off the barcode types that will not be used to improve the performance of the scanner.

Note: The maximum length limit of any 1D barcode must not exceed 127. If the maximum length is less than the minimum length, only barcodes of these two lengths will be read. If the maximum length is equal to the minimum length, only this length is supported.

Turn on/off barcode settings

Turn on all barcodes: the scanner will read all barcodes that can be read.

Off Barcode Off: The scanner will only be able to read the setup code, all barcodes except the setup code will not be read.

Restore default barcode: the scanner will restore the barcode readable type in the default settings.

Close all barcodes

Turn on all barcodes

Restore default barcode

Turn on/off all 1D barcodes

Enables all 1D barcodes

Close all 1D barcodes

Restore default 1D barcode

Turn on/off all 2D barcodes

Close all 2D barcodes

Turn on all 2D barcodes

Restore the default 2D barcode

Positive and negative code settings

One-dimensional code positive and negative color

Both normal and reverse color 1D codes can be solved

Solve normal 1D code only (default)

QR code positive and negative color

Both normal and reverse color QR codes can be solved

Solve normal QR code only (default)

EAN-13

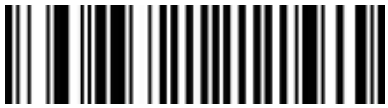
Turn on/off

EAN13 on (default)

EAN13 closed

Calibration

Enable EAN13 transmission checksum (default)



Turn off EAN13 transmission checks

Additional code 2 digits

Read 2-digit additional code

No readable 2-digit additional code (default)

Additional code 5 digits

Read 5-digit additional code

No readable 5-digit additional code (default)

Output method

Additional codes that must be recognized as enabled can be output

Additional codes that do not require recognition to enable can be output (default)

ISSN

Turn on/off

ISSN Open

ISSN off (default)

Additional code 2 digits

Read 2-digit additional code

No readable 2-digit additional code (default)

Output method

Additional codes that must be recognized as enabled can be output

Additional codes that do not require recognition to enable can be output (default)

ISBN

Turn on/off

ISBN open

ISBN off (default)

Additional code 5 digits

Read 5-digit additional code

No readable 5-digit additional code (default)

Output method

Additional codes that must be recognized as enabled can be output

Additional codes that do not require recognition to enable can be output (default)

EAN-8

Turn on/off

EAN8 on (default)

EAN8 closed

Calibration

EAN8 on transmission checksum (default)

EAN8 off transmit checksum

Transcoding

Open EAN8 to EAN13

Close EAN8 to EAN13 (default)

Additional code 2 digits

Read 2-digit additional code

No readable 2-digit additional code (default)

Additional code 5 digits

Read 5-digit additional code

No readable 5-digit add-on code (default)

Output method

Additional codes that must be recognized as enabled can be output

Additional codes that do not require recognition to enable can be output

(default)

UPC-A

Turn on/off

UPC-A on (default)

UPC-A closed

Calibration

Turn on UPC-A transmission checksum (default)

Turn off UPC-A transmission checksum

Transcoding

Turn on UPC-A to EAN13

Close UPC-A to EAN13 (default)

Additional code 2 digits

Read 2-digit additional code

No readable 2-digit additional code (default)

Additional code 5 digits

Read 5-digit additional code

No readable 5-digit additional code (default)

Output method

Additional codes that must be recognized as enabled can be output

Additional codes that do not require recognition to enable can be output (default)

Digital system characters

Output numeric system characters (default)

No numeric system characters are output

UPC-E

Turn on/off

UPC-E0 on (default)

UPC-E0 closed

UPC-E1 on (default)

UPC-E1 shutdown

Calibration

Turn on UPC-E transmission checksum (default)

Turn off UPC-E transmission checksum

Transcoding

Turn on UPC-E to UPC-A

Turn off UPC-E to UPC-A (default)

Additional code 2 digits

Read 2-digit additional code

No readable 2-digit additional code (default)

Additional code 5 digits

Read 5-digit additional code

No readable 5-digit additional code (default)

Output method

Additional codes that must be recognized as enabled can be output

Additional codes that do not require recognition to enable can be output (default)

Code 128 settings

Turn on/off settings

Code128 on (default)

Code128 Close

Length Setting

Minimum decoding length setting, the minimum length needs to be less than or equal to the maximum length.

Minimum length setting

Maximum length setting

Example

Limit the scanner to barcodes with a minimum of 8 bytes and a maximum of 12 bytes.

1. Read "Startup Settings"
2. Read "Minimum length setting"
3. Read data code "8" (see Appendix 1 for data and edit barcode)
4. read "Save" (see Appendix 1 to save or cancel)
5. Read "Maximum length setting"
6. read data code "1" "2" (see Appendix 1)
7. read "Save" (see Appendix 1 to save or cancel)
8. read "Exit Settings"

Code 39 Settings

Turn on/off settings

Code39 on (default)

Code39 Close

Calibration

Turn off Code39 checksum (default)

Turn on Code39 checksum, no checksum characters are transmitted

Enables Code39 checksum to transmit checksum characters

Starters and terminators

Beginning and ending character output

Start and end characters are not output (default)

Code 39 Full ASCII code reading function

Open

Off (default)

Length Setting

Code 39 Minimum decoding length setting, the minimum length needs to be less than or equal to the maximum length.

Minimum length setting

Maximum length setting

Example

Limit the scanner to barcodes with a minimum of 8 bytes and a maximum of 12 bytes.

1. Read "Startup Settings"
2. Read "Minimum length setting"
3. Read data code "8" (see Appendix 1 for data and edit barcode)
4. read "Save" (see Appendix 1 to save or cancel)
5. Read "Maximum length setting"
6. read data code "1" "2" (see Appendix 1)

7. read "Save" (see Appendix 1 to save or cancel)

8. read "Exit Settings"

Code 32 settings

You need to select "On" for "On/Off setting" of Codo 39 to turn on Code 32. If you turn off code 32 alone, the code output will be code 39. code 39.

Code32 open

Code32 off (default)

Code 93 Settings

Turn on/off

Code93 on (default)

Code93 Close

Calibrate

Turn off Code93 checksum

Turn on Code93 checksum, no checksum characters are transmitted (default)

Turn on Code93 checksum and transmit checksum characters

Length Setting

Minimum decoding length setting, the minimum length needs to be less than or equal to the maximum length.

Minimum length limit

Maximum length limit

Example

Limit the scanner to barcodes with a minimum of 8 bytes and a maximum of 12 bytes.

1. Read "Startup Settings"
2. Read "Minimum length setting"
3. Read data code "8" (see Appendix 1 for data and edit barcode)
4. read "Save" (see Appendix 1 to save or cancel)
5. Read "Maximum length setting"
6. read data code "1" "2" (see Appendix 1)
7. read "Save" (see Appendix 1 to save or cancel)
8. read "Exit Settings"

Codabar Settings

Turn on/off

Codabar on (default)

Codabar closed

Start and stop characters

Codabar transfer start and stop characters

Codabar does not transmit start and stop characters (default)

Calibration

Turn off Codabar checksum (default)

Turn on Codabar checksum, no checksum characters are transmitted

Enable Codabar checksum and transmit checksum characters

Length Setting

Codabar minimum decoding length setting, the minimum length needs to be less than or equal to the maximum length.

Minimum length setting

Maximum length setting

Example

Limit the scanner to barcodes with a minimum of 8 bytes and a maximum of 12 bytes.

1. Read "Startup Settings"
2. Read "Minimum length setting"
3. Read data code "8" (see Appendix 1 for data and edit barcode)
4. read "Save" (see Appendix 1 to save or cancel)
5. Read "Maximum length setting"
6. read data code "1" "2" (see Appendix 1)
7. read "Save" (see Appendix 1 to save or cancel)
8. read "Exit Settings"

Interleaved 2 of 5 (ITF5)

Turn on/off

Interleaved 2 of 5 (ITF5) on

Interleaved 2 of 5 (ITF5) off (default)

Calibration

Turn off Interleaved 2 of 5 (ITF5) checksum (default)

Turn on the Interleaved 2 of 5 (ITF5) checksum.
No checksum characters are transmitted

Turn on the Interleaved 2 of 5 (ITF5) checksum.
Transfer of check characters

Length Setting

ITF-6: Special length Interleaved 2 of 5 (ITF5) barcode. When this feature is enabled, the minimum and maximum length of Interleaved 2 of 5 (ITF5) barcode is fixed to 6.

ITF-14: Special length Interleaved 2 of 5 (ITF5) barcode. When this feature is enabled, the minimum and maximum length of Interleaved 2 of 5 (ITF5) barcode is fixed to 14.

Minimum length setting

Maximum length setting

Set to ITF-6

Set to ITF-14

Example

Limit the scanner to barcodes with a minimum of 8 bytes and a maximum of 12 bytes.

1. Read "Startup Settings"
2. Read "Minimum length setting"
3. Read data code "8" (see Appendix 1 for data and edit barcode)
4. read "Save" (see Appendix 1 to save or cancel)
5. Read "Maximum length setting"
6. read data code "1" "2" (see Appendix 1)
7. read "Save" (see Appendix 1 to save or cancel)
8. read "Exit Settings"

Industrial 2 of 5

Turn on/off

Industrial 2 of 5 opens

Industrial 2 of 5 off (default)

Calibration

Turn off Industrial 2 of 5 checksum (default)

Enables Industrial 2 of 5 checksum, no c

hecksum characters are transmitted

Enables Industrial 2 of 5 checksum to tra nsmit checksum characters

Length Setting

Minimum decoding length setting, the minimum length needs to be less than or equal to the maximum length.

Minimum length setting

Maximum length setting

Example

Limit the scanner to barcodes with a minimum of 8 bytes and a maximum of 12 bytes.

1. Read "Startup Settings"
2. Read "Minimum length setting"
3. Read data code "8" (see Appendix 1 for data and edit barcode)
4. read "Save" (see Appendix 1 to save or cancel)
5. Read "Maximum length setting"
6. read data code "1" "2" (see Appendix 1)
7. read "Save" (see Appendix 1 to save or cancel)
8. read "Exit Settings"

Matrix 2 of 5

Turn on/off

Matrix 2 of 5 opens

Matrix 2 of 5 off (default)

Calibrate

Turn off Matrix 2 of 5 checksum (default)

Enable Matrix 2 of 5 checksum, no check sum characters are transmitted

Enables Matrix 2 of 5 checksum to trans mit checksum characters

Length Setting

Minimum decoding length setting, the minimum length needs to be less than or equal to the maximum length.

Minimum length setting

Maximum length setting

Example

Limit the scanner to barcodes with a minimum of 8 bytes and a maximum of 12 bytes.

1. Read "Startup Settings"
2. Read "Minimum length setting"
3. Read data code "8" (see Appendix 1 for data and edit barcode)
4. read "Save" (see Appendix 1 to save or cancel)
5. Read "Maximum length setting"
6. read data code "1" "2" (see Appendix 1)
7. read "Save" (see Appendix 1 to save or cancel)
8. read "Exit Settings"

Code 11 Settings

Turn on/off

Code 11 on

Code 11 off (default)

Calibration

Turn off Code 11 checksum (default)

Turn on Code 11 checksum, no checksum

characters are transmitted

Enables Code 11 checksum and transmits checksum characters

Length Setting

Minimum decoding length setting, the minimum length needs to be less than or equal to the maximum length.

Minimum length setting

Maximum length setting

Example

Limit the scanner to barcodes with a minimum of 8 bytes and a maximum of 12 bytes.

1. Read "Startup Settings"
2. Read "Minimum length setting"
3. Read data code "8" (see Appendix 1 for data and edit barcode)
4. read "Save" (see Appendix 1 to save or cancel)
5. Read "Maximum length setting"
6. read data code "1" "2" (see Appendix 1)
7. read "Save" (see Appendix 1 to save or cancel)
8. read "Exit Settings"

MSI-Plessey Setup

Turn on/off

MSI-Plessey opens

MSI-Plessey off (default)

Calibration

Turn off MSI-Plessey checksum

Turn on MSI-Plessey one-bit checksum (default)

Enabling MSI-Plessey two-bit checksum

MSI-Plessey transfer checksum character (default)

MSI-Plessey does not transmit checksum characters

Length Setting

The minimum length of MSI-Plessey needs to be less than or equal to the maximum length.

Minimum length setting

Maximum length setting

Example

Limit the scanner to barcodes with a minimum of 8 bytes and a maximum of 12 bytes.

1. Read "Startup Settings"
2. Read "Minimum length setting"
3. Read data code "8" (see Appendix 1 for data and edit barcode)
4. read "Save" (see Appendix 1 to save or cancel)
5. Read "Maximum length setting"
6. read data code "1" "2" (see Appendix 1)
7. read "Save" (see Appendix 1 to save or cancel)
8. read "Exit Settings"

GS1-DataBar (RSS)

RSS-14 on/off

RSS-14 open

RSS-14 off (default)

RSS-14 leading characters (not enabled)

RSS-Limited on/off

RSS-Limited on

RSS-Limited off (default)

RSS-Limited leading character (not enabled)

RSS-Expaned on/off

RSS-Expaned on

RSS-Expaned off (default)

RSS-Expaned leading character (not enabled)

RSS-Stacked on/off

RSS-Stacked on

RSS-Stacked off (default)

RSS-Stacked leading character (not enabled)

Length Setting

Minimum length setting

Maximum length setting

Example

Limit the scanner to barcodes with a minimum of 8 bytes and a maximum of 12 bytes.

1. Read "Startup Settings"
2. Read "Minimum length setting"
3. Read data code "8" (see Appendix 1 for data and edit barcode)
4. read "Save" (see Appendix 1 to save or cancel)
5. Read "Maximum length setting"
6. read data code "1" "2" (see Appendix 1)
7. read "Save" (see Appendix 1 to save or cancel)
8. read "Exit Settings"

Micro QR Code

Micro QR open

Micro QR off (default)

QR Code

Turn on/off

QR on (default)

QR Close

URL code

QR URL code open

QR URL code off (default)

Data Matrix

Data Matrix on (default)

Data Matrix Close

PDF417

PDF417 on (default)

PDF417 Close

Micro PDF417

Micro PDF417 opens

Micro PDF417 off (default)

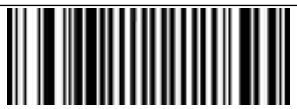
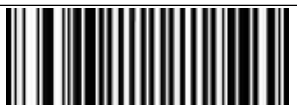
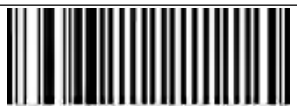
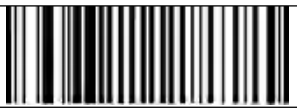
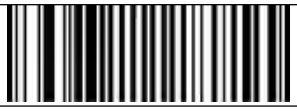
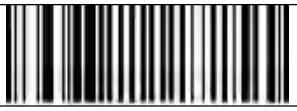
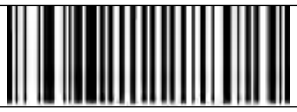
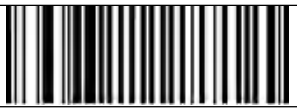
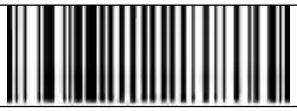
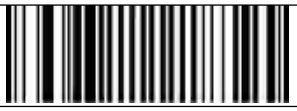
Aztec Code

Aztec Code on

Aztec Code off (default)

Appendix

Appendix 1 Data and Edit Barcodes

 0	
	 1
 2	
	 3
 4	
	 5
 6	
	 7
 8	
	 9

A	
	B
C	
	D
E	
	F
Save	
	Cancel current settings
Cancels a string of data that was read earlier	
	Cancel the previous read data

Appendix 2 Code system support list

Code type	Code ID	
	HEX	Corresponding characters
Codabar	0x42	B
Code 11	0x68	h
Code 128	0x6A	j
Code 39(Code 32)	0x62	b
Code 93	0x69	i
ISBN	0x53	S
ISSN	0x6E	n
EAN		
EAN-13(including ISBN)	0x64	d
EAN-8	0x44	D
GS1		
GS1 DataBar	0x79	y
GS1 DataBar Limited	0x7B	{
GS1 DataBar Expanded	0x7D	}
GS1 DataBar Stacked	0x59	Y
2 of 5		
Interleaved 2 of 5	0x65	e
Matrix 2 of 5	0x6D	m
Industrial 2 of 5	0x66	f
MSI	0x67	g
UPC		
UPC-A	0x63	c
UPC-E0	0x45	E
UPC-E1	0x61	a
Aztec Code	0x41	A
Data Matrix	0x77	w
PDF417	0x72	r
Micro PDF417	0x52	R
QR	0x73	s
Micro QR	0x51	Q

Appendix 3 Command Menu Description

Name	Number of instruction bits	Description
Baotou	2 byte	Packet headers are divided into sending and feedback packet headers. Input packet header is fixed as: 0x57 0x00 The return packet header is fixed as: 0x31 0x00
Equipment number	1 byte	In non-RS-485 serial mode, the fixed value is 0x00, in RS-485 serial mode the value can be set to distinguish different devices in multi-computer communication.
Command Status	[7:4]	A value of 0000 indicates that the command is a setup command.
		A value of 0001 indicates that the command is a get status command.
	[3:0]	If the value is 0000, it means the instruction is correctly operated.
		A value of 0001 indicates an error action for this command.
Data Length	4 byte	Length of the data segment in the current instruction
Data	N byte	When the data length is 0 byte, the segment does not need to be filled.
CRC16 checksum	2 byte	CRC16 checksum is performed on all data except CRC16 checksum.
Attention	1. Wegan Communications does not support command control! 2. Command control does not support batch processing!	

Appendix 4 Controlling Escape Characters

Decimal	ASCII	Control + ASCII mode	Alt + Keypad mode
1	SOH (Start of Header)	Ctrl+A	Alt+001
2	STX (Start of Text)	Ctrl+B	Alt+002
3	ETX (End of Text)	Ctrl+C	Alt+003
4	EOT (End of Transmission)	Ctrl+D	Alt+004
5	ENQ (Enquiry)	Ctrl+E	Alt+005
6	ACK (Acknowledgment)	Ctrl+F	Alt+006
7	BEL (Bell)	Ctrl+G	Alt+007
8	BS (Backspace)	Back Space	Alt+008
9	HT (Horizontal Tab)	Tab	Alt+009
10	LF (Line Feed)	Ctrl+P	Alt+010
11	VT (Vertical Tab)	Ctrl+Q	Alt+011
12	FF (Form Feed)	Ctrl+R	Alt+012
13	CR (Carriage Return)	Enter	Alt+013
14	SO (Shift Out)	Ctrl+N	Alt+014
15	SI (Shift In)	Ctrl+O	Alt+015
16	DLE (Data Link Escape)	Ctrl+P	Alt+016
17	DC1 (XON) (Device Control 1)	Ctrl+Q	Alt+017
18	DC2 (Device Control 2)	Ctrl+R	Alt+018
19	DC3 (XOFF) (Device Control 3)	Ctrl+S	Alt+019
20	DC4 (Device Control 4)	Ctrl+T	Alt+020
21	NAK (Negative Acknowledgement)	Ctrl+U	Alt+021
22	SYN (Synchronous Idle)	Ctrl+V	Alt+022
23	ETB (End of Trans. Block)	Ctrl+W	Alt+023
24	CAN (Cancel)	Ctrl+X	Alt+024
25	EM (End of Medium)	Ctrl+Y	Alt+025
26	SUB (Substitute)	Ctrl+Z	Alt+026
27	ESC (Escape)	Ctrl+[	Alt+027
28	FS (File Separator)	Ctrl+\	Alt+028
29	GS (Group Separator)	Ctrl+]	Alt+029

30	RS (Request to Send)	Ctrl+^	Alt+030
31	US (Unit Separator)	Ctrl+_	Alt+031

Appendix 5 ASCII code table

(Light yellow background for control characters, white background for displayable characters.)

Binary	Decimal	Hexadecimal	Characters/abbreviations	Explanation
0	0	0	NUL (NULL)	null character
1	1	1	SOH (Start Of Headling)	Title Start
10	2	2	STX (Start Of Text)	Start of the text
11	3	3	ETX (End Of Text)	End of text
100	4	4	EOT (End Of Transmission)	End of transmission
101	5	5	ENQ (Enquiry)	Request
110	6	6	ACK (Acknowledge)	Response/response/notification received
111	7	7	BEL (Bell)	Ringer
1000	8	8	BS (Backspace)	Backspace
1001	9	9	HT (Horizontal Tab)	Horizontal Tabs
1010	10	0A	LF/NL(Line Feed/New Line)	Line feed key
1011	11	0B	VT (Vertical Tab)	Vertical Tabs
1100	12	0C	FF/NP (Form Feed/New Page)	Page change key
1101	13	0D	CR (Carriage Return)	Enter key
1110	14	0E	SO (Shift Out)	No need to switch

1111	15	0F	SI (Shift In)	Enable switching
10000	16	10	DLE (Data Link Escape)	Data Link Escape
10001	17	11	DC1/XON (Device Control 1/Transmission On)	Device Control 1/ Transmission Start
10010	18	12	DC2 (Device Control 2)	Equipment Control 2
10011	19	13	DC3/XOFF (Device Control 3/Transmission Off)	Device control 3/transmission interruption
10100	20	14	DC4 (Device Control 4)	Equipment Control 4
10101	21	15	NAK (Negative Acknowledge)	No response/abnormal response/rejected
10110	22	16	SYN (Synchronous Idle)	Synchronized idle
10111	23	17	ETB (End of Transmission Block)	End of block transfer/block transfer termination
11000	24	18	CAN (Cancel)	Cancellation
11001	25	19	EM (End of Medium)	End of Media / Media Storage Full / Media Break
11010	26	1A	SUB (Substitute)	Substitute / Replacement
11011	27	1B	ESC (Escape)	Escape/Cancel

11100	28	1C	FS (File Separator)	File splitter
11101	29	1D	GS (Group Separator)	Group separator / grouping character
11110	30	1E	RS (Record Separator)	Record separator
11111	31	1F	US (Unit Separator)	Cell separator
100000	32	20	(Space)	Space
100001	33	21	!	
100010	34	22	"	
100011	35	23	#	
100100	36	24	$	
100101	37	25	%	
100110	38	26	&	
100111	39	27	'	
101000	40	28	(	
101001	41	29	)	
101010	42	2A	*	
101011	43	2B	+	
101100	44	2C	,	
101101	45	2D	-	
101110	46	2E	.	
101111	47	2F	/	
110000	48	30	0	

110001	49	31	1	
110010	50	32	2	
110011	51	33	3	
110100	52	34	4	
110101	53	35	5	
110110	54	36	6	
110111	55	37	7	
111000	56	38	8	
111001	57	39	9	
111010	58	3A	:	
111011	59	3B	;	
111100	60	3C	<	
111101	61	3D	=	
111110	62	3E	>	
111111	63	3F	?	
1,000,000	64	40	@	
1000001	65	41	A	
1000010	66	42	B	
1000011	67	43	C	
1000100	68	44	D	
1000101	69	45	E	
1000110	70	46	F	

1000111	71	47	G	
1001000	72	48	H	
1001001	73	49	I	
1001010	74	4A	J	
1001011	75	4B	K	
1001100	76	4C	L	
1001101	77	4D	M	
1001110	78	4E	N	
1001111	79	4F	O	
1010000	80	50	P	
1010001	81	51	Q	
1010010	82	52	R	
1010011	83	53	S	
1010100	84	54	T	
1010101	85	55	U	
1010110	86	56	V	
1010111	87	57	W	
1011000	88	58	X	
1011001	89	59	Y	
1011010	90	5A	Z	
1011011	91	5B	[	
1011100	92	5C	\	

1011101	93	5D	]	
1011110	94	5E	^	
1011111	95	5F	_	
1100000	96	60	`	
1100001	97	61	a	
1100010	98	62	b	
1100011	99	63	c	
1100100	100	64	d	
1100101	101	65	e	
1100110	102	66	f	
1100111	103	67	g	
1101000	104	68	h	
1101001	105	69	i	
1101010	106	6A	j	
1101011	107	6B	k	
1101100	108	6C	l	
1101101	109	6D	m	
1101110	110	6E	n	
1101111	111	6F	o	
1110000	112	70	p	
1110001	113	71	q	
1110010	114	72	r	

1110011	115	73	s	
1110100	116	74	t	
1110101	117	75	u	
1110110	118	76	v	
1110111	119	77	w	
1111000	120	78	x	
1111001	121	79	y	
1111010	122	7A	z	
1111011	123	7B	{	
1111100	124	7C	|	
1111101	125	7D	}	
1111110	126	7E	~	
1111111	127	7F	DEL (Delete)	Delete