aqprox

2D Barcode Scanner

appLS07DESK

User Guide

1 Introducción

El Escáner appLS07DESK incorpora un lector de reconocimiento de imagen 2D de alta prestaciones, diseñado especialmente para este tipo de escáneres..

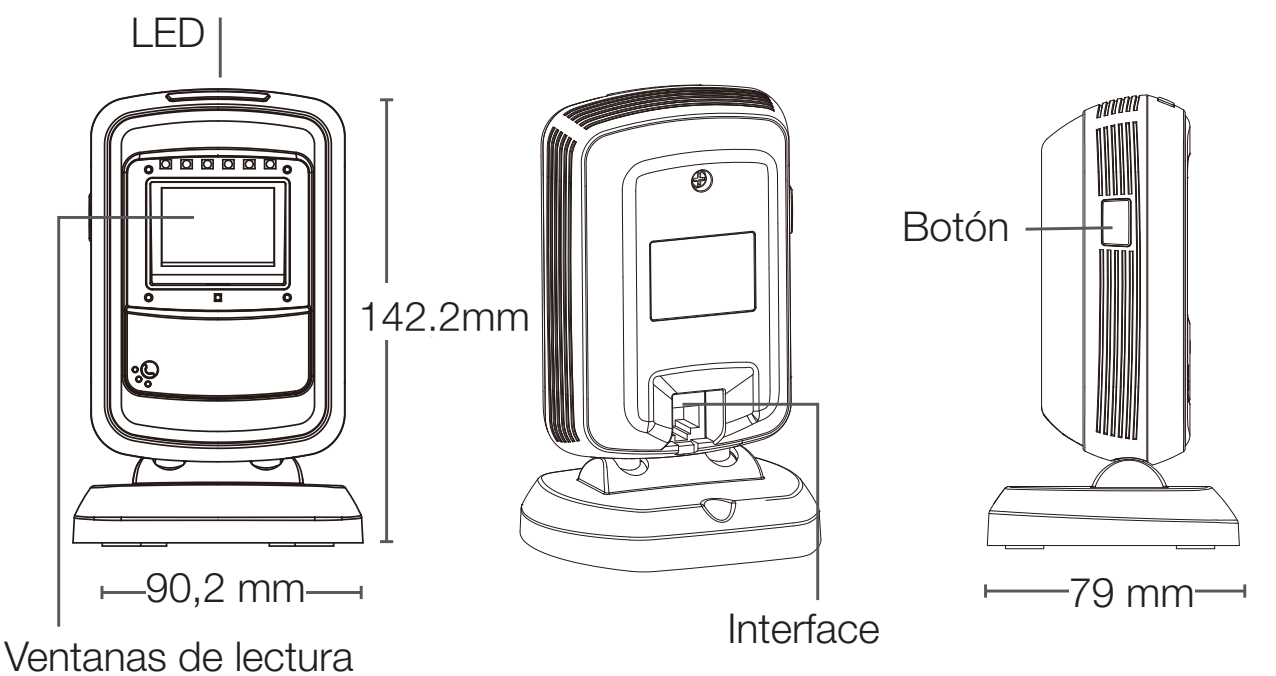
Este lector de decodificación 2D cuenta con un avanzado algoritmo de reconocimiento de imágenes que maximiza rendimiento del proceso de lectura, aumenta la fiabilidad y disminuye el consumo.

appLS07DESK puede reconocer todo tipo de códigos de barras 1D y códigos de barras 2D estándar (varias versiones de PDF417, código QR y matriz de datos). Puede escanear en papel, tarjetas de plástico, LCD y otros medios impresos.

Su diseño facilita la integración en una amplia gama de aplicaciones.

1.1 Apariencia y dimensión

■ Vista frontal **■ Vista trasera** **■ Vista Izquierda**



1.2 Configuraciones del interfaz

Interfaz USB

PIN	Descripción	Color	Función
1	V Bus	RED	+5V
2	Data-	WHITE	-Data
3	Data+	GREEN	+Data
4	GND	BLACK	GND

1.3 Encender, apagar y reiniciar

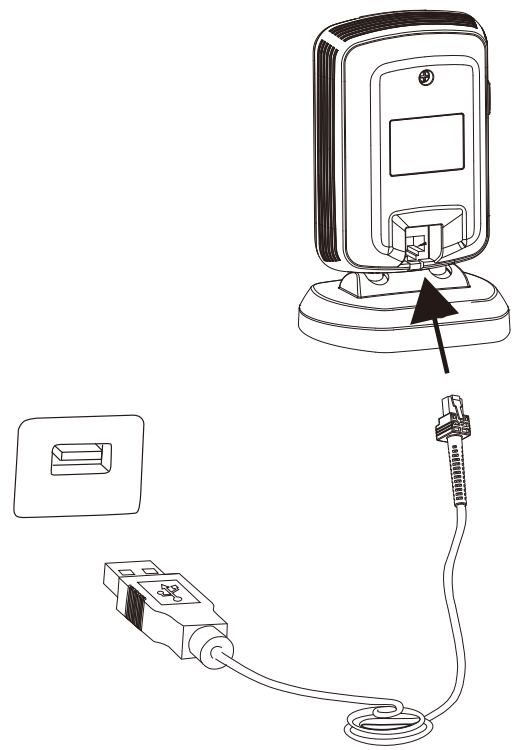
Encendido: Plug and play, encendido automático cuando el escáner se conecta al Host.

Apagado: Desenchufe el cable de datos del escáner.

Reiniciar: Si el escáner se cuelga o no responde, Quite y vuelva a colocar el cable de datos.

1.4 Interfaz de comunicación

El escáner appLS07DESK se conecta al Host, (ordenador o dispositivo POS), a través de un puerto USB.



1.5 Reconocimiento de los códigos de barras

En el modo de reconocimiento manual, el procedimiento para escanear los códigos de barras es el siguiente:

(1) Asegúrese de que el escáner, el cable de datos, el Host y la fuente de alimentación estén correctamente conectados y encendidos.
(2) Mantenga presionado el botón para activar la luz LED.
(3) Mueva el escáner para encontrar la mejor distancia de reconocimiento de los códigos de barras.
(4) Cuando escuche el sonido de aviso, la luz infrarroja se apaga indicando que el código de barras se leyó correctamente, el escáner decodificará los datos y los graba en el Host.
(5) Todas las configuraciones se mantienen aunque se apague el dispositivo.

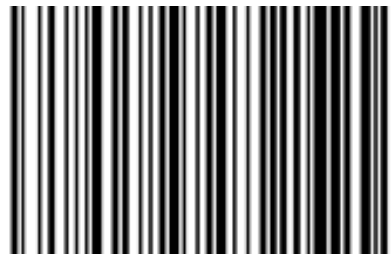
Nota: En el proceso de reconocimiento, para un mismo lote de códigos, se debe respetar un cierto rango de distancia para conseguir un alto grado de éxito en las diferentes lectura de los códigos de barras.

1.6 Usar el código de barras de configuración

Puede establecer configuraciones especiales, usando los códigos incluidos en este manual. Escanee el código de barras que coincida con la configuración que desee, y automáticamente se guardará la configuración en el escáner, aunque en el Host no aparecerá ningún mensaje. Todas las configuraciones se mantienen aunque se apague el dispositivo. (Excepto si se restaura la configuración de fábrica).

1.7 Restaurar valores por defecto

Nota: Por favor utilice "Restore Factory defaults" con precaución. Cuando escanee este código de barras perderá la configuración existente, siendo sustituida por los valores de fábrica.



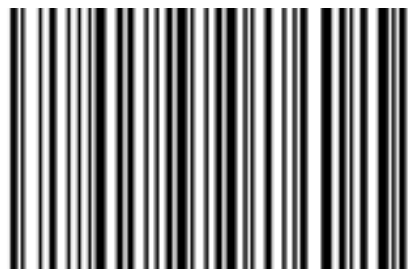
Restore Factory defaults

2 Interfaz de comunicación

El escáner AppLS07DESK utiliza el puerto de comunicación USB para recibir y reconocer los datos, controlar el escáner, enviar comandos, modificar parámetro, etc..

2.2.1 Teclado virtual HID

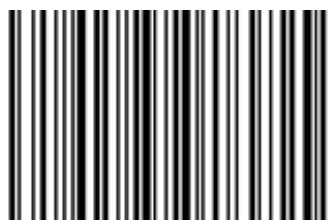
A traves del interfaz USB, el escáner puede simular un dispositivo HID-KBW que permite envíar datos al Host.



2.2.2 Configuración del idioma del escáner (Ver páginas 15 a 17)

2.2.3 USB Virtual Serial Port

Es posible configurar el escáner como un Serial Port USB virtual. Esta función requiere que se instale el controlador adecuado en el Host..



USB Virtual Serial Port Setting

3 Modo de reconocimiento

3.1 Modo Manual

En el modo manual, la lectura de los códigos de barras se realiza pulsando el botón de disparo, situado en el lateral del dispositivo. La lectura se enviará al Host.

Para realizar la lectura correcta del código, sitúe éste frente al dispositivo y presione el botón de disparo.

Para configurar el escáner en este modo utilice este código.



Manual Mode

3.2 Modo automático

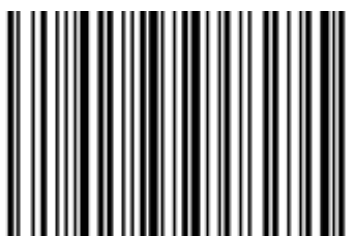
En el modo de detección automática, el escáner controlará la toma de imágenes.

El reconocimiento de los códigos será efectivo cuando:

1) la escena cambia,

2) El Tiempo establecido, “tiempo de reconocimiento único”. haya transcurrido y no hubiese cambiado la escena.

Después de reconocer la información con éxito, o pasado el tiempo de espera, volverá al estado de monitoreo, hasta que detecta otra imagen en su rango de acción.



Sensing Automatically

Sobre el tiempo de reconocimiento

En el modo automático de detección, este parámetro indica el tiempo máximo para permitir que el escáner reconozca e identifique el código de barras antes de validarlo.

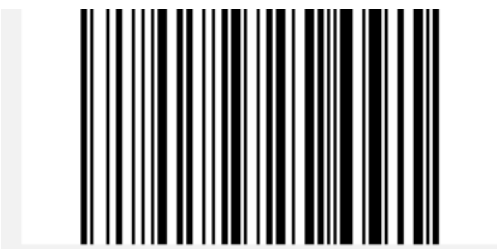
El rango de tiempo de reconocimiento es de 0,1 ~ 9,9 segundos

Cuando se establece en 0, el reconocimiento no espera.

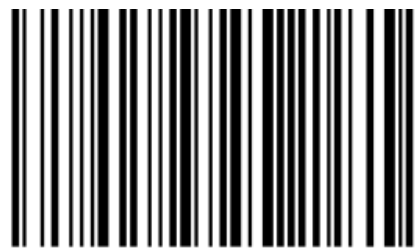
La longitud del paso es de 0,1 segundos.

Los siguientes códigos de barras le permiten cambiar del tiempo de reconocimiento de 3 segundos al de 0 segundos.

Para otras configuraciones consulte la web www.approxtpv.es



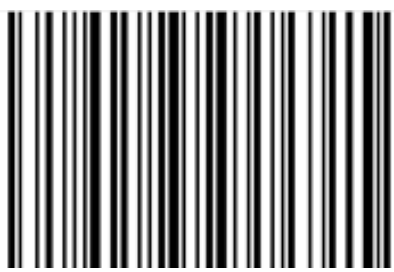
Tiempo de reconocimiento
de 3 segundos)



Tiempo de reconocimiento
de 0 segundos

3.3 Modo continuo

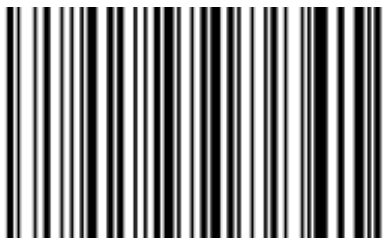
El modo continuo significa que el escáner dispara, reconoce y muestra la información continuamente. En este modo, el escáner no entra en estado suspendido.



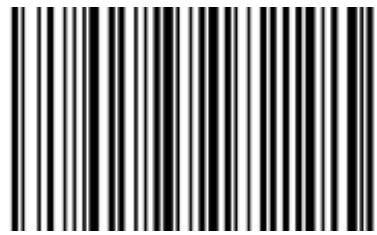
Continuous light

4 Luz LED

El escáner ilumina el área de reconocimiento de código, se puede configurar para que se apague o se encienda.



LED ON

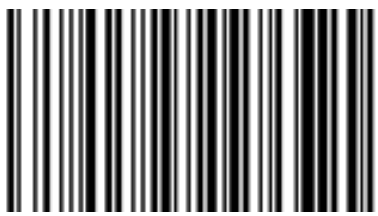


LED OFF

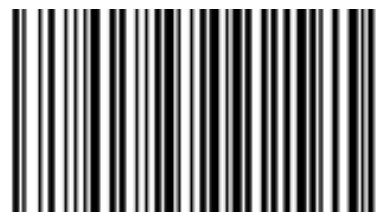
5 Otras funciones

5.1 Sonido.

Después de reconocer con éxito un código, el escáner puede emitir una señal acústica. Para activar el zumbador de sonidos utilice los siguientes códigos de barras.



Turn ON
(Default)



Turn OFF

5.2 Ajuste inverso de códigos de barras. Ver códigos de barras en páginas: 21 y 22

5.3 Ajustes de sufijos más comunes. Ver códigos en página 22.

6 Parámetros de símbolo de código de barras

Cada tipo de código de barras tiene sus propias propiedades, y el reconocimiento del escáner se puede ajustar para esos parámetros específicos. Utilice los diferentes códigos de configuración del manual.

Se pueden desactivar códigos que no desees tener activos, lo que mejorará el rendimiento del escáner.

Ver los códigos de configuración en las páginas de la 23 a la 37:

6 Solución de problemas

Pregunta: Hay algunos códigos de barras que no se pueden escanear.

Respuesta: Verifique el tipo de código de barras, abra la función de código de barras; si está verificado, intente apagarlo..

Pregunta: Los datos del código de barras son incorrectos.

Respuesta: Verifique la visualización de errores de los códigos de barras (todos los errores de códigos de barras o errores específicos de códigos de barras)

Pregunta: El código de barras se puede reconocer pero no se muestra.

Respuesta: En primer lugar, confirme el modo de funcionamiento del escáner. Si está en modo de puerto serie RS-232, debe conectarse con un cable serie; Si está en modo de puerto serie virtual USB, debe conectarse con un cable USB y el host acepta con la herramienta de puerto serie. Ambos modos deben garantizar que el atributo del puerto serie de la herramienta del puerto serie en el host sea coherente con el atributo del puerto serie del dispositivo. Si está conectado a un teclado virtual HID, entonces conectado directamente mediante un cable USB.

Pregunta: La luz de observación y el LED no iluminan.

Respuesta: Compruebe si el dispositivo está encendido..

Reconecte el cable de datos

Instrucciones de seguridad, mantenimiento y reciclado

1. Atención: Nunca abra el dispositivo, las partes internas tienen peligro de descarga eléctrica.
2. No instale esta unidad cerca de agua, como, por ejemplo, en un sótano húmedo, en un exterior sin protección o en cualquier zona clasificada como húmeda.
3. No introduzca objetos de ningún tipo en la unidad a través de los orificios ya que pueden entrar en contacto con puntos de tensión y desencadenar cortocircuitos en las piezas y provocar incendios o descargas eléctricas.
4. No derrame ningún tipo de líquido sobre la unidad. Peligro de explosión.
5. No aplaste los cables de alimentación, peligro de cortocircuito.
6. Conéctelo siempre para su alimentación o carga a la tensión recomendada por el fabricante.
7. Limpiar el producto con un paño suave y seco.
8. Seguir las ordenanzas locales para desechar el producto.

Reciclado

AEE REI-RAEE 5548 En el presente manual, el símbolo del contenedor tachado indica que el producto está sometido a una directiva europea, la 2002/96/EC, los productos eléctricos o electrónicos, las baterías, y los acumuladores y otros accesorios necesariamente han de ser objeto de una recogida selectiva.

Al final de la vida útil del dispositivo, haz uso de los contenedores de reciclaje. Este gesto ayudará a reducir los riesgos para la salud y a preservar el medioambiente.

Los ayuntamientos y los distribuidores, te aportarán las precisiones esenciales en materia de reciclado de su antiguo dispositivo. Si este dispositivo lleva una batería interna, deberá extraerse y ser depositada separadamente para su adecuada gestión.



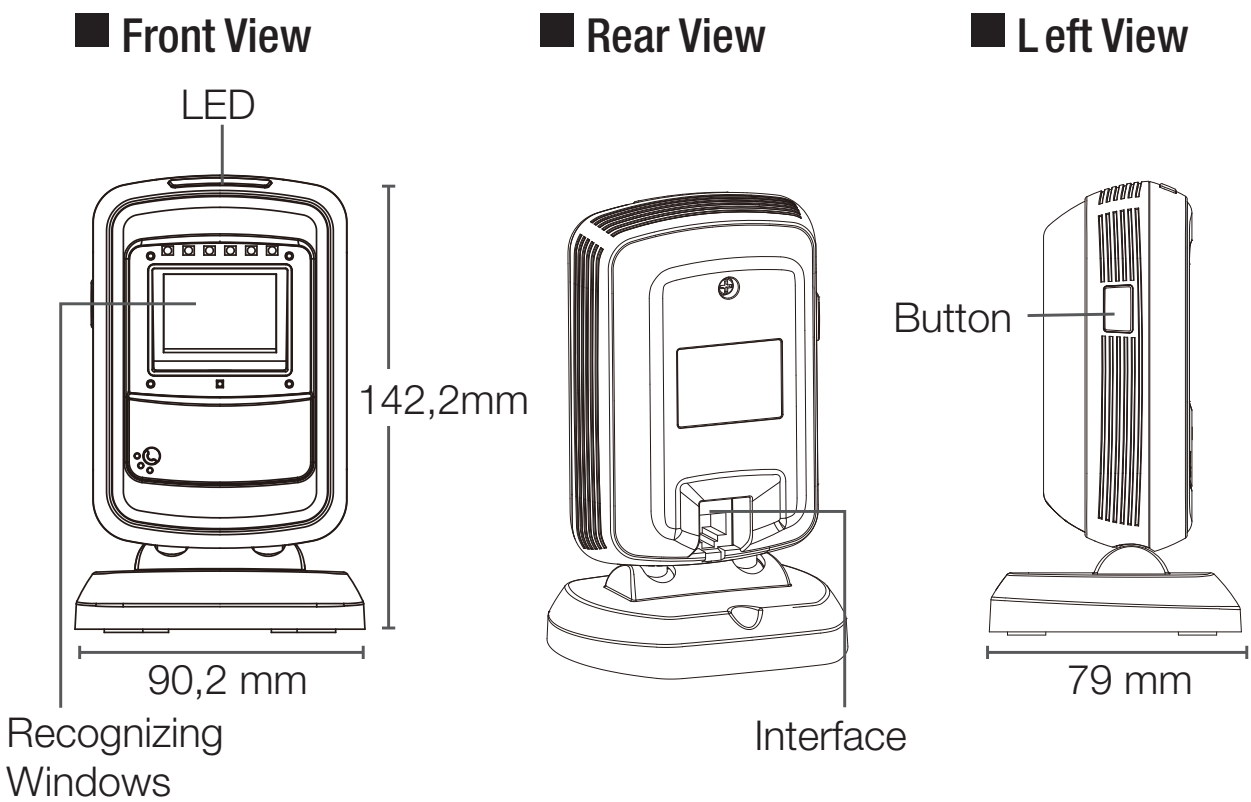
1 Introduction

appLS07DESK uses the international leading chip intelligent image recognition technology, and it mainly uses for image-based 2D scanner.

2D decoding chip combines the advanced image recognition algorithm with advanced chip design and manufacturing technology that greatly simplifies the design difficulty of 2D barcode to scan products, and establishes an excellent benchmark for high performance, high reliability and low power consumption of 2D I image products.

appLS07DESK can recognition all kinds of 1D barcodes and standard 2D barcodes (various versions of PDF417, QR code, and Data matrix) can easily scan paper, plastic cards, LCD and other barcode printed media. Its fully integrated design makes it easy to embed in a wide range of product applications.

1.1 Appearance and Dimension



1.2 Scanner Data Cable Interface Definition

USB Interface Define

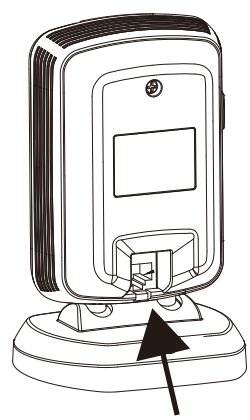
PIN	Descripción	Color	Función
1	V Bus	RED	+5V
2	Data-	WHITE	-Data
3	Data+	GREEN	+Data
4	GND	BLACK	GND

1.3 Power on, Power off and Restart

Power on: plug and play interface, power on automatically when the scanner is connected to the host.
Power off: unplug the data cable.
Restart: if the appLS07DESK scanner freezes or does not respond, please restart the data cable.

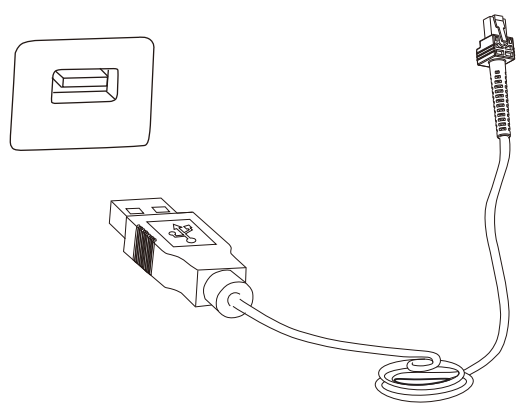
1.5 Communication Interface

appLS07DESK must be connected to a host. The host can be a PC, POS machine, or with a USB, interface in any of the intelligent terminal.



USB

Connect the scanner to the host via a USB cable.



1.6 Barcode Recognition

In manual recognition mode, the procedure for scanning barcodes is as follows:

(1) Make sure that the scanner, data cable, data receiving host, and power supply are properly connected and turned on.

(2) Hold down the trigger to activate the LED light.

(3) Move the scanner and adjust the distance between it and the barcode to find the best recognizing distance.

(4) When hear the prompt sound, the infrared light goes out and the barcode recognizing successfully, then the scanner will decode the data to the host.

(5) All set barcodes are saved by power outage.

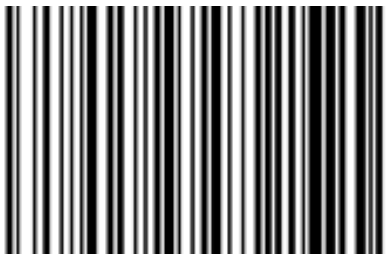
Note: In the recognizing process, for the same batch of barcodes, the distance between the scanner and the barcode in a certain range which success rate of the recognition barcode will be very high and that distance is the best recognizing distance.

1.7 Use the Setting Barcode

Set the parameter to a special barcode whose barcode type is barcode128. When scanning to a barcode software that matches the setting type of setting, it will automatically enter the settings and does not send the results on the host. All set barcodes are saved by power outage. (except to restore factory settings)

1.8 Restore Factory Defaults

Note: Please use the "Restore Factory defaults" feature with caution, and when you scan this setup barcode, the current parameter settings will be lost and replaced with the factory default values.



Restore Factory defaults

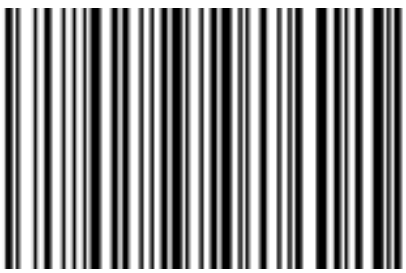
2 Communication Interface

AppLS07DESK Stationary Barcode Scanner provides RS-232 serial interface and USB interface (optional) to connect to the host. Through communication interfaces, it can receive and recognition the data, control the scanner by sending the commands, modify the parameter of scanner, etc.

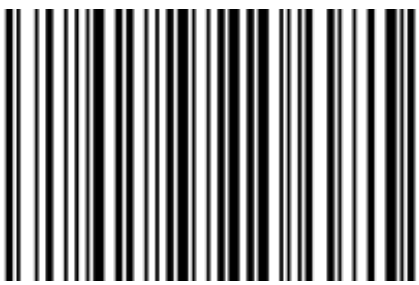
2.1 USB Interface

2.1.1 HID Virtual Keyboard

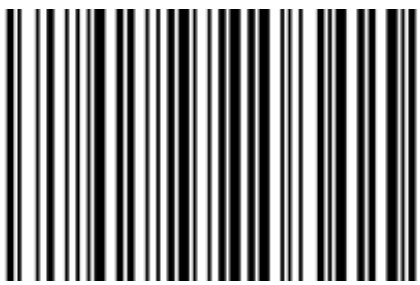
When using USB interface, the scanner can be simulated as a HID-KBW device. In this mode, the scanner would be a virtual keyboard that output the data to the host.



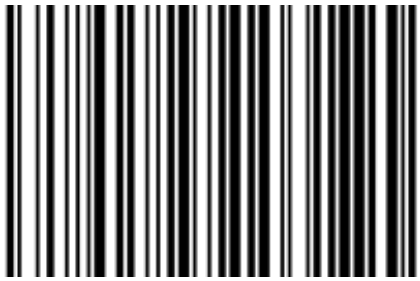
2.1.2 USB International Keyboard Setting



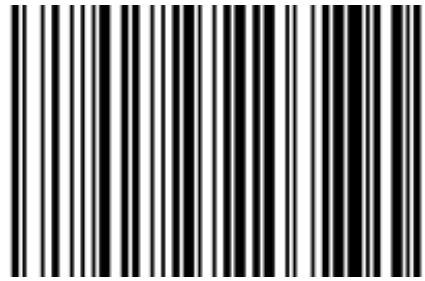
USA (Default)



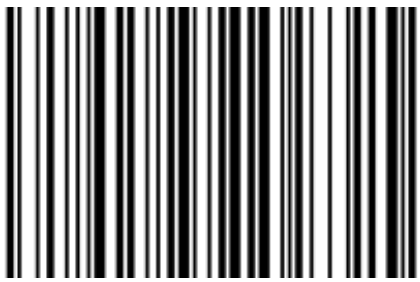
Belgian



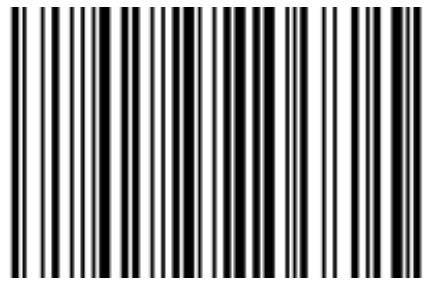
Finnish (Swedish)



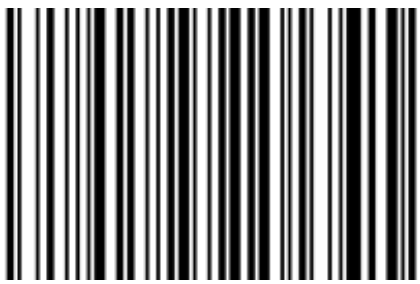
French



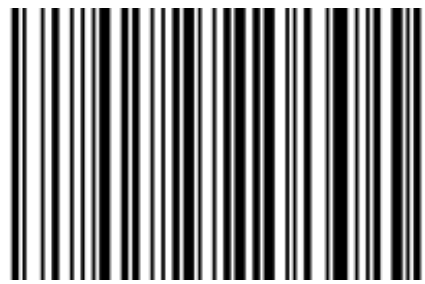
German



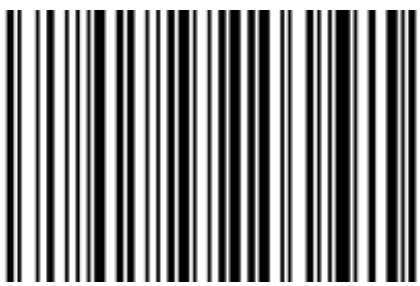
Italian



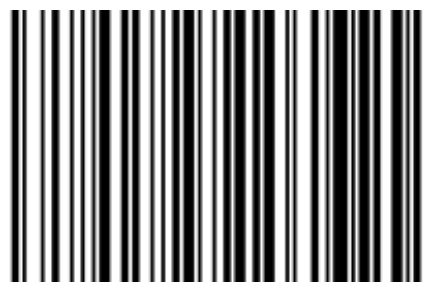
Swiss (German)



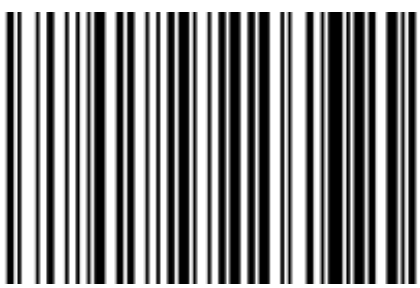
British



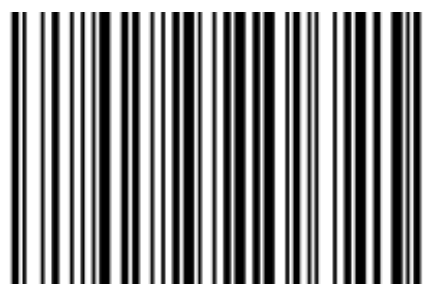
Danish



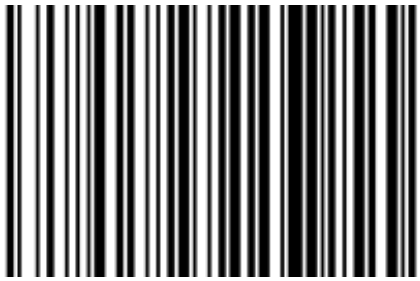
Norwegian



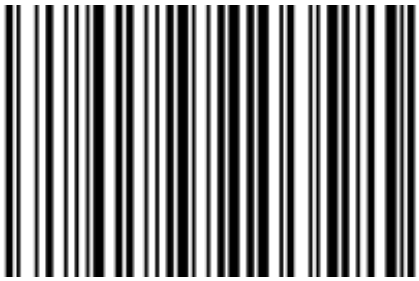
Spanish



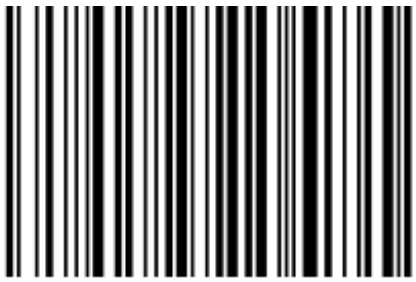
Dutch



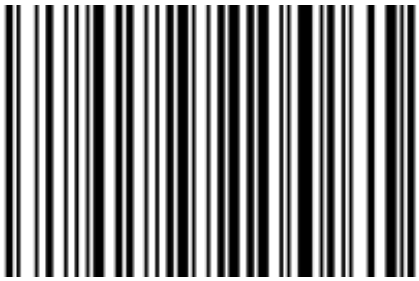
Hebrew



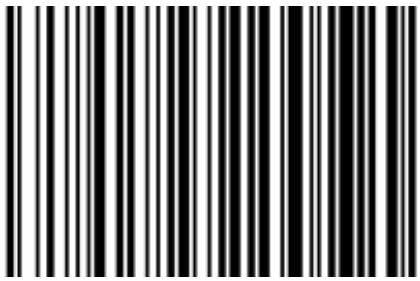
Portuguese



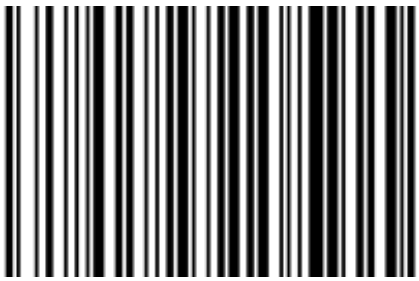
Czech_DEC



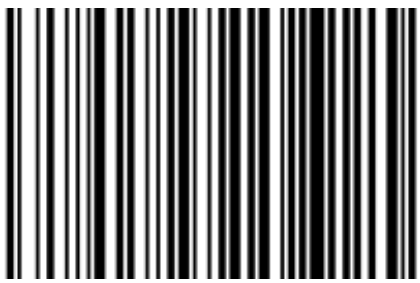
Polish



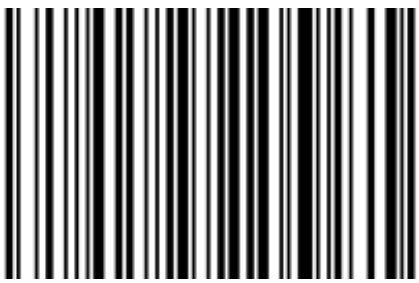
Slovakian_DEC



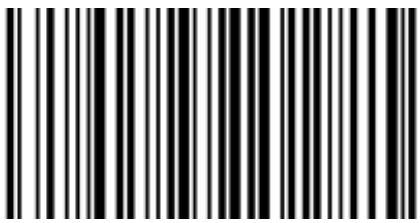
Greek



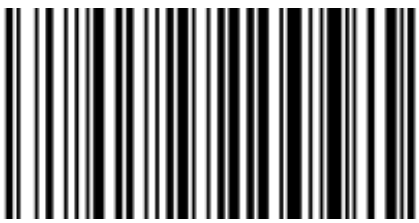
Turkish



Hungarian



Croatian

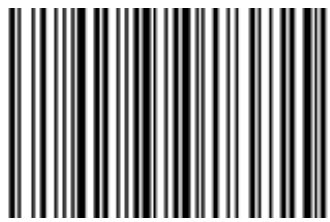


Swedish

* For more configuration options, see our website www.approxtpv.es.

2.1.3 USB Virtual Serial Port

When the scanner uses a USB communication interface, but the host application uses serial communication to receive data, you can setup the scanner to a USB virtual serial port. This feature requires that the appropriate driver be installed on the host.



USB Virtual Serial Port Setting

3 Recognition Mode

3.1 Manual Mode

In manual mode, when the trigger control interface of the scanner changes into trigger electrical level, the scanner will start to shoot and recognize. In the limited time of “once recognizing time”, the scanner will continuously shoot and recognize until it is successful. When trigger electrical level is canceled, or recognition is over the once recognition time limit, shooting and recognizing will be stopped. When recognition is successful, the scanner will output the editing content through communication interface. When start a new trigger recognition, the host needs to cancel the trigger electrical level at first, and then send the trigger electrical level after 20ms.

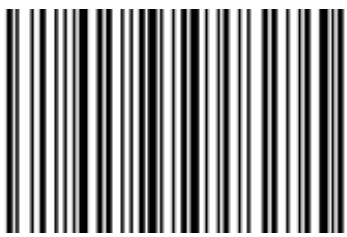


Manual Mode

3.2 Automatic Sensing Mode

In automatic sensing mode, the scanner will monitor the images being taken. When the scene changes, it will recognize within the limited time of “once recognition time”. After recognizing the output information successfully or the recognizing times out, it will re-enter the state of monitoring scene changes.

When the scanner work in this mode, it can also according to the trigger electrical level to enter the recognizing state. After the trigger electrical level is canceled or recognizing times out, it will re-enter the state of monitoring scene changes. Before re-entering the monitoring state, the trigger electrical level needs to be canceled, then it will be switched to the sensing mode.

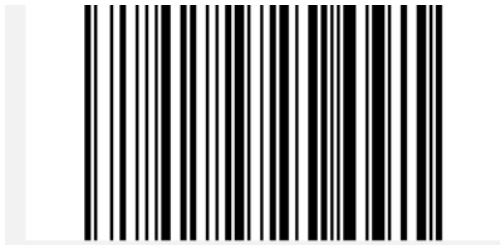


Sensing Automatically Mode

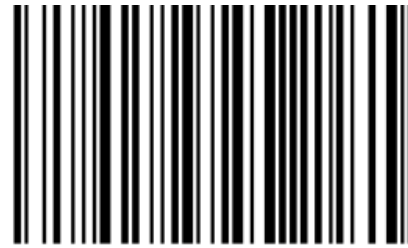
Once Recognizing Time

In sensing recognizing mode, the parameter indicates the maximum time of allowing recognizing engine to continuously collect and identify barcode before recognizing successfully. After recognizing successfully or once recognition timeout, the recognizing engine will enter the interval of not collecting the recognition. The range of once recognition time is 0.1~9.9s, step length is 0.1s. When set to 0, the recognition does not wait. Default time is 1s.

The following barcodes allow you to change the recognition time of 3 seconds to 0 seconds. For other configurations see the website www.approxtpv.es



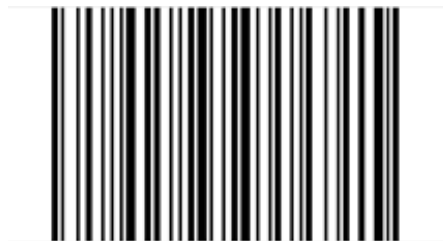
Recognition time
3 seconds



Recognition time
0 seconds

3.3 Continuous Mode

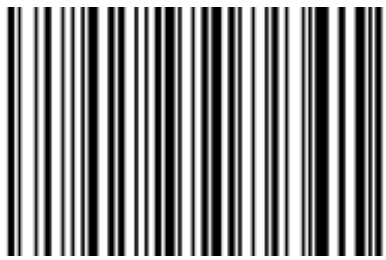
Continuous mode means that the scanner continuously shoots, recognizes and output the information. In this mode, the same barcode cannot be output



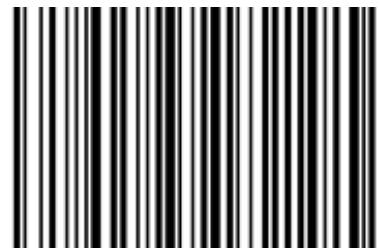
Continuous light

4 LED Light

There is a fill lighting device on the scanner that is used to light up the recognizing area when recognizing. It can be set to turn off and fill light level. (Please refer to Chapter 8 for the lighting level setting)



LED ON

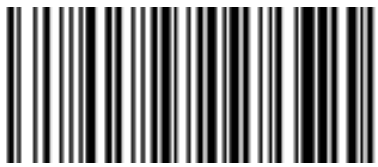


LED OFF

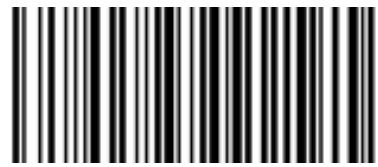
5 Other Functions

5.1 Recognition Successful Sound

After recognizing successfully, the scanner can output the PWM signal to drive the external buzzer circuit to make sounds. The following setup barcode can be set accordingly.



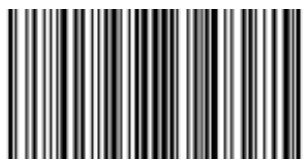
Turn ON (Default)



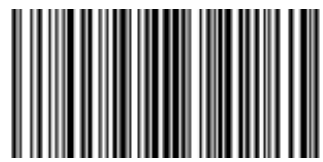
Turn OFF

5.2 Barcode Reverse Setting

-1D

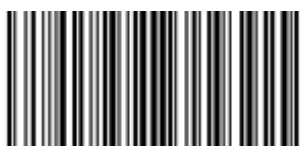


Auto Recognize (Default)



Prohibited reverse barcode recognition

- Data Matrix Barcode



Auto Recognize (Default)

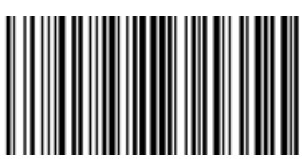


Prohibited reverse barcode recognition

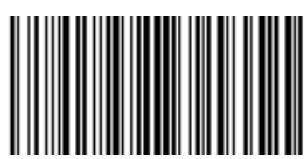


Only reverse barcode recognition

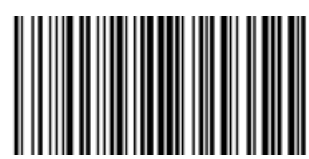
- QR Barcode



Auto Recognize (Default)

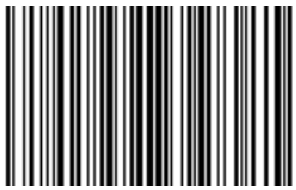


Only reverse barcode recognition



Prohibited reverse barcode recognition

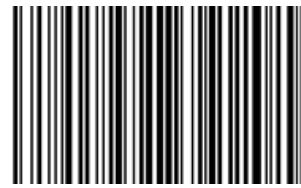
-Aztec Barcode



Auto Recognize
(Default)

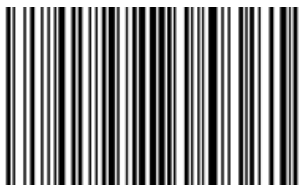


Only reverse barcode
recognition

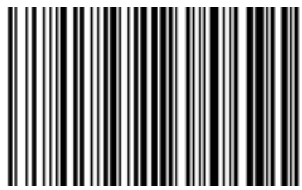


Prohibited reverse barco-
de recognition

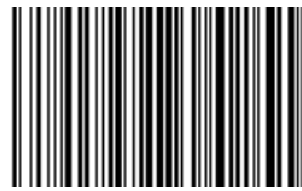
- Han Xin Barcode



Auto Recognize
(Default)



Only reverse barcode
recognition

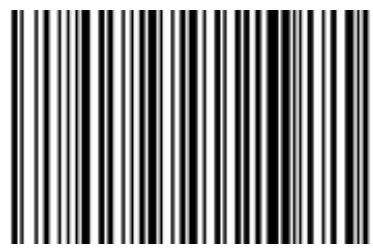


Disable reverse barcode
recognition

5.3 Common End Mark Suffix Settings



Add end mark suffix LF



Add end mark suffix CR



Add end mark suffix LF+CR



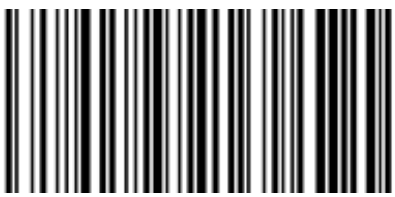
Add end mark suffix TAB

6 Barcode Symbol Parameter

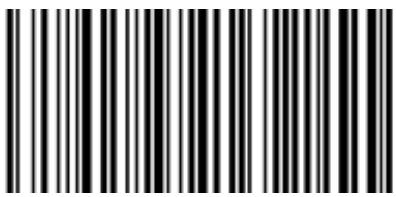
Each type of barcode has its own unique properties, and the recognition of scanner can be adjusted to adapt to these property changes through the set barcode in this chapter. You can also prevent the recognizing function from recognizing the type of barcode that will not to be used so that it can improve the performance of the recognizing function.

- EAN-8

Enable/disable recognize EAN-8



Enable (Default)

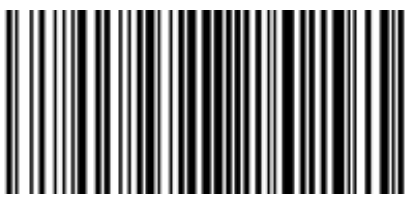


Disable

Setting whether to read 2/5-bit extra-code.
2/5-bit extension code means that the 2/5-digit digital barcode appended after a normal barcode.



Allow reading 2/5-bit extra-code (Default)



Not to read 2/5-bit extra-code

EAN-13 Setting whether to extend the result to EAN-13.
The result is extended to EAN-13, which is to add 5 zeros before the barcode data of EAN-8.



Do not extend barcode to 13 bits (Default)



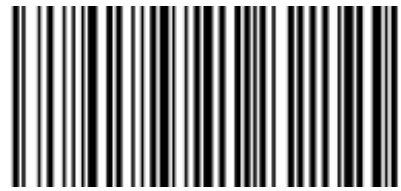
Extend barcode to 13 bits

- EAN-13

Enable/disable recognize EAN-13



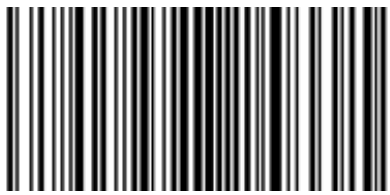
Enable (Default)



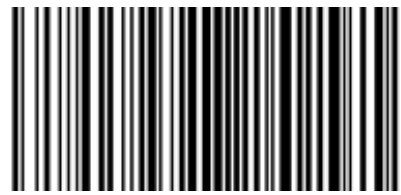
Disable

Setting whether to read 2/5-bit extra-code

2/5-bit extra-code refers to the 2/5-digit digital barcode appended after a normal barcode.



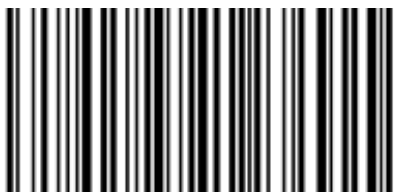
Enable (Default)



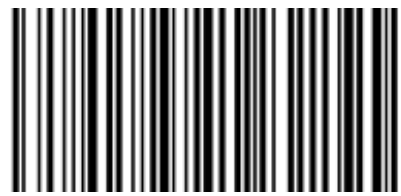
Disable

- ISSN

Enable/disable recognize ISSN



Enable

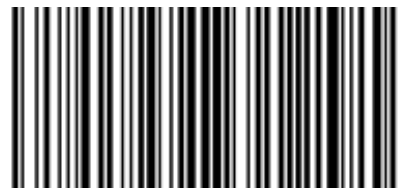


Disable (Default)

- ISBN



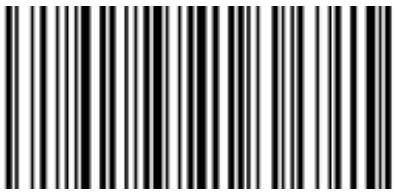
13-bit (Default)



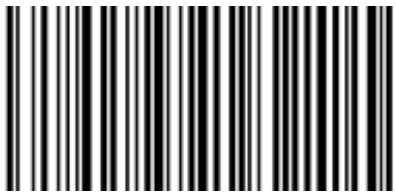
10-bit

- UPC-E

Enable/disable recognize UPC-E



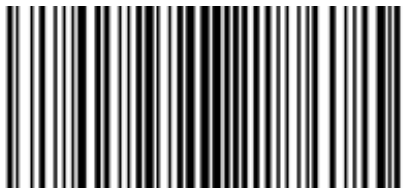
Enable (Default)



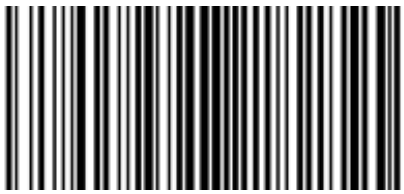
Disable

Set to determine whether to transfer the check bit.

The UPC-E barcode data is fixed to 8 characters and the 8th character is the check bit which is used to verify the correctness of all 8 characters.



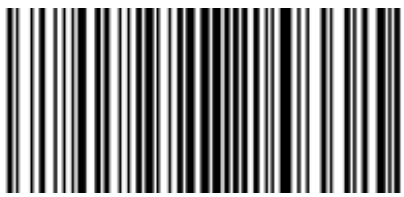
Enable (Default)



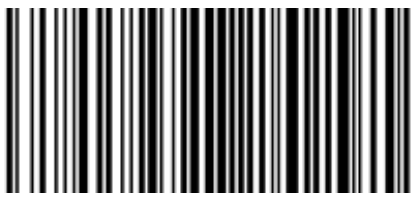
Disable

Set whether to recognize the 2/5-bit extra-codes.

2/5-bit extra-code refers to the 2/5-digit digital barcode that is appended after a normal barcode.



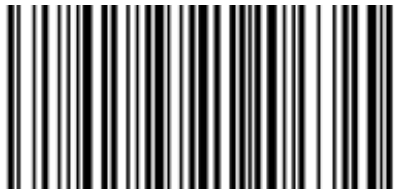
Enable (Default)



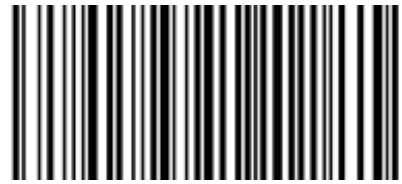
Disable

Set whether the result is extended to UPC-A

The chip can expand the decoding results of UPC-E type barcodes to UPC-A type barcodes according to standard algorithms.

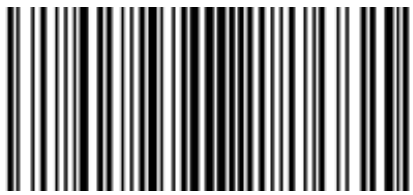


Enable

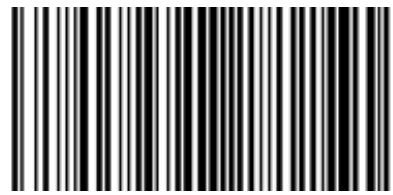


Disable (Default)

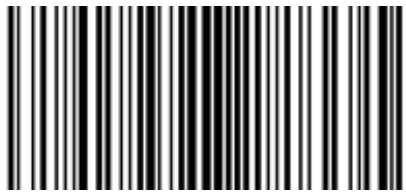
System character transfer settings



Transport system characters (Default)



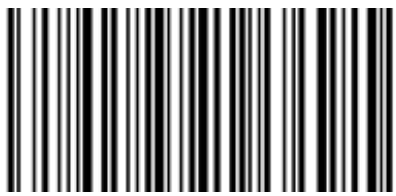
Not transmit system characters



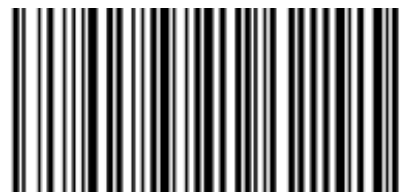
Transport system characters and country codes (“0” for USA)

- UPC-A

Enable/disable recognize UPC-A



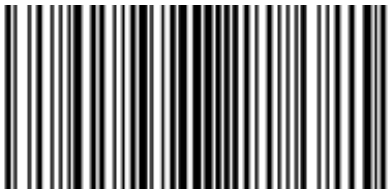
Enable (Default)



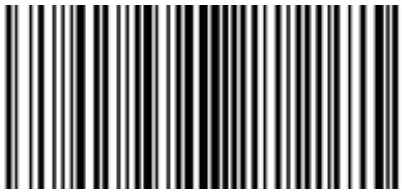
Disable

Setting whether to transmit check-bit

UPC-A barcode data is fixed to 13 characters, and the 13th character is the check bit, which is used to verify the correctness of all 13 characters.



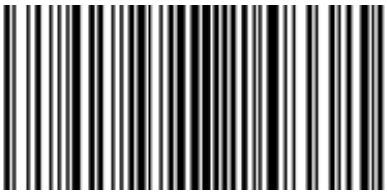
Enable (Default)



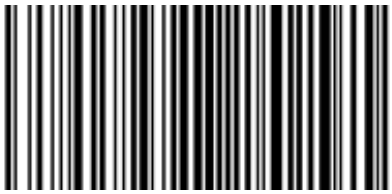
Disable

Set whether to read 2/5-bit extra-codes

2/5-bit extra-code refers to the 2/5-digit digital barcode that is appended after a normal barcode.

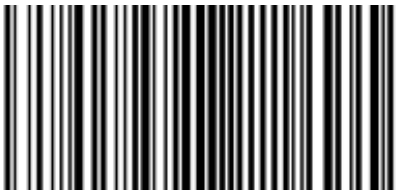


Enable (Default)

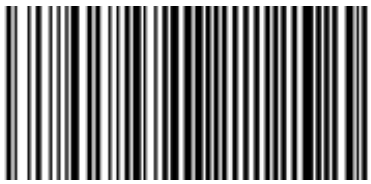


Disable

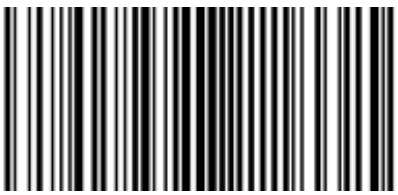
System character transfer settings



Enable (Default)



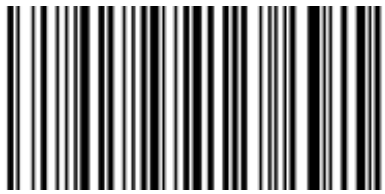
Disable



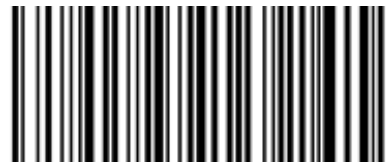
Transport system characters and country codes (“0” for USA)

- Code 39

Enable/disable recognize Code 39



Enable (Default)

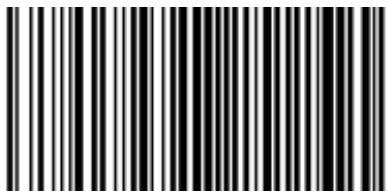


Disable

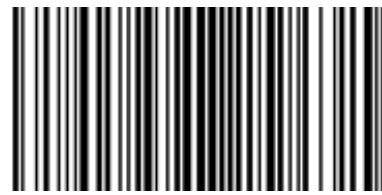
Setting whether to check and transmit check-bit

Code 39 barcode data can contain no check-bit; if there is a check that is the last 1 character of the data. The check-bit is a value calculated from all the data to verify that the data is correct.

Setting whether to check

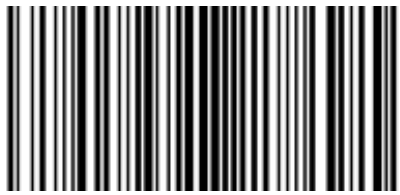


No Check (Default)

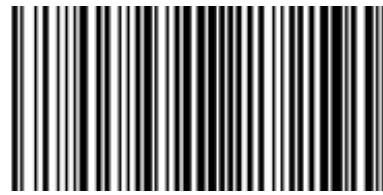


Check

Setting whether to transmit check-bit



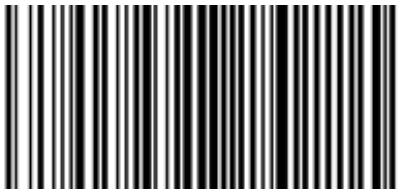
Transmit



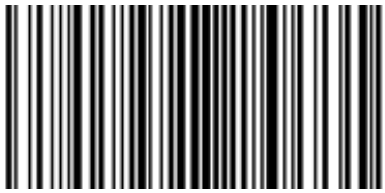
No Transmit (Default)

ASCII barcode recognizing range setting

Code 39 barcode data can include all ASCII characters, but the scanner only recognizes some ASCII characters by default. You can turn on the ability to read full ASCII characters by setting.

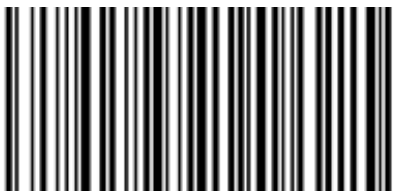


Turn off Full ASCII Recognizing (Default)

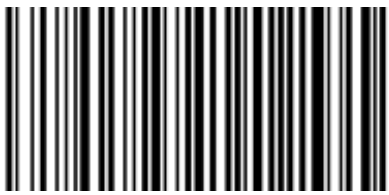


Turn on Full ASCII Recognizing

Code 39 converse Code32 setting

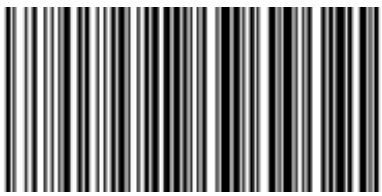


Enable conversion

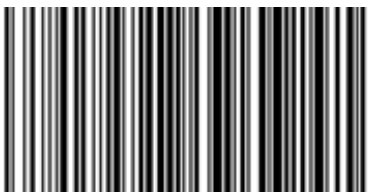


Disable conversion (Default)

Code32 prefix character setting



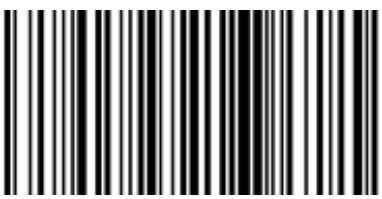
Enable add the prefix character “A”



Disable add the prefix character “A” (default)

- Code 93

Enable/disable recognize Code 93



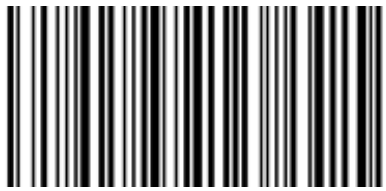
Enable (Default)



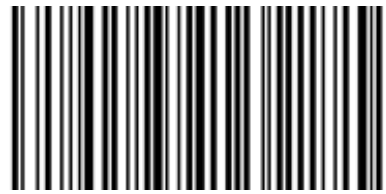
Disable

- Code 11

Enable/disable recognize Code 11



Enable



Disable (Default)

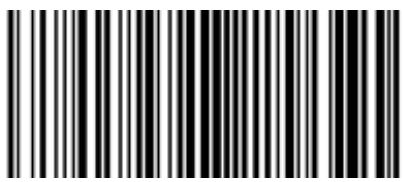
Check Setting

The check characters can not to be contained in Code 11 barcode data. If there is a check bit, it can be the last 1 or 2 characters of the data. The check bit is a value calculated based on all data to check that if the data is correct. Therefore, when set to “no check”, the recognizing function can transmit all barcode data normally.

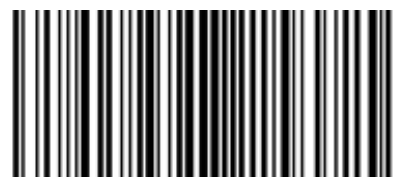
Setting whether to check



No Check (Default)



1-bit check

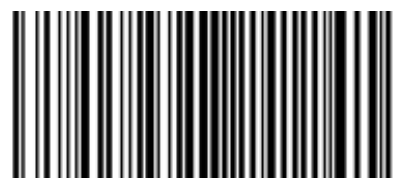


2-bit check

Set whether to transmit the check-bit



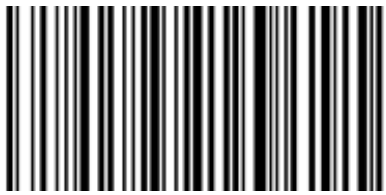
Transmit



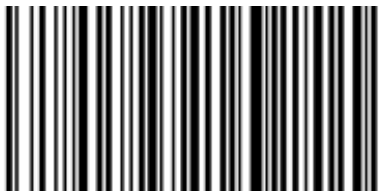
No Transmit (Default)

- Interleaved 2 of 5

Enable/disable recognize Interleaved 2 of 5



Enable (Default)

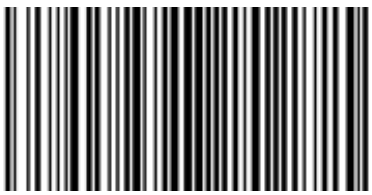


Disable

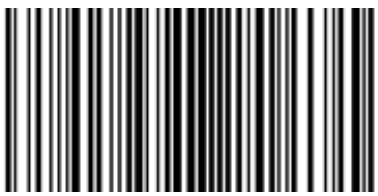
Setting check and transfer check bit

Interleaved 2 of 5 barcode can not to be contained in Code 11 barcode data. If there is a check bit that is the last 1 or 2 characters of the data. The check bit is a value calculated based on all data to check that if the data is correct.

Setting whether to check



No Check (Default)

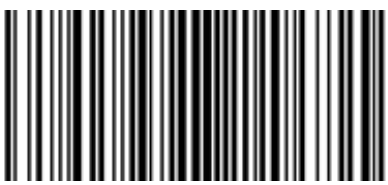


USS Check

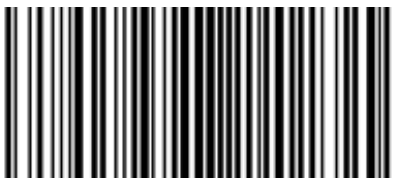


OPCC Check

Set whether to transfer the check bit

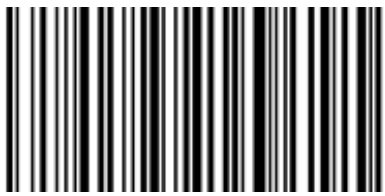


Transmit

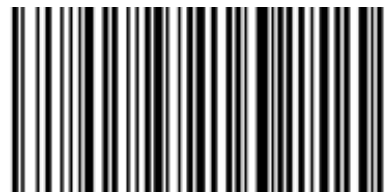


No Transmit (Default)

- I 2 of 5 converse EAN-13 setting



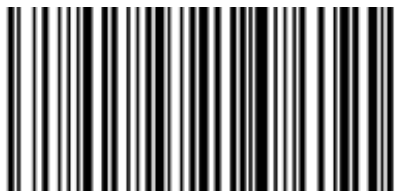
Enable conversion



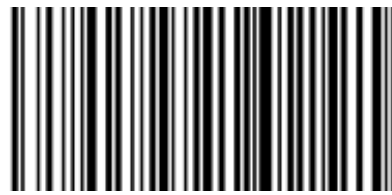
Disable conversion (default)

- Matrix 2 of 5

Enable/disable recognize Matrix 2 of 5



Enable



Disable (Default)

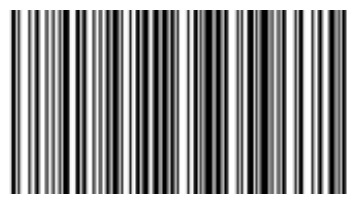
Setting check and transfer check bit

Interleaved 2 of 5 barcode can not to be contained in Code 11 barcode data. If there is a check bit that is the last 1 or 2 characters of the data. The check bit is a value calculated based on all data to check that if the data is correct.

Setting whether to check

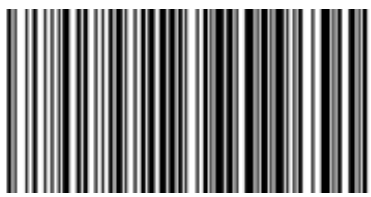


No Check (Default)

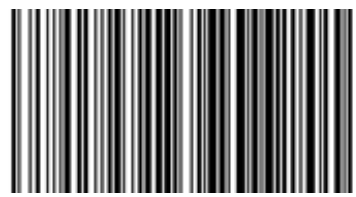


Check

Set whether to transmit the check-bit



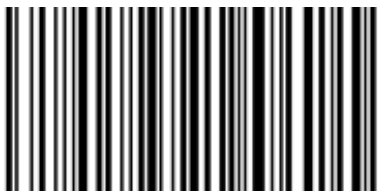
Transmit



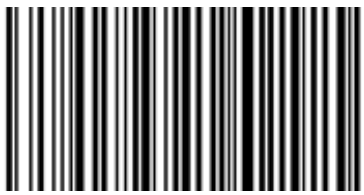
No Transmit (Default)

- Discrete 2 of 5

Enable/disable recognize Discrete 2 of 5



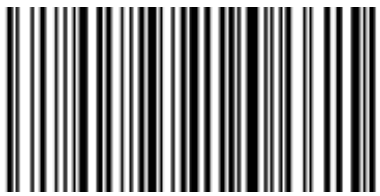
Enable



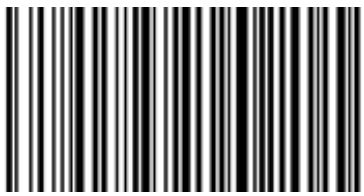
Disable (Default)

- MSI

Enable/disable recognize MSI



Enable

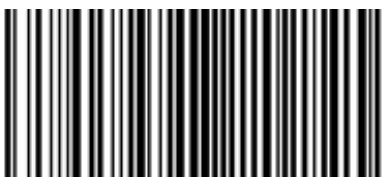


Disable (Default)

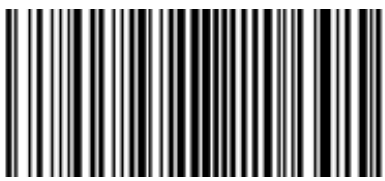
Check Setting

MSI barcode can not to be contained in Code 11 barcode data. If there is a check bit that is the last 1 or 2 characters of the data. The check bit is a value calculated based on all data to check that if the data is correct.

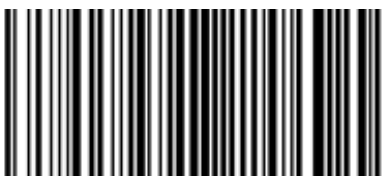
Setting whether to check



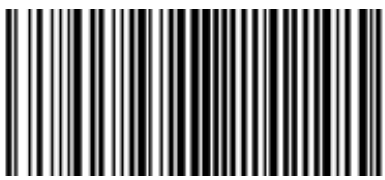
1-bit Check (Default)



2-bit Check

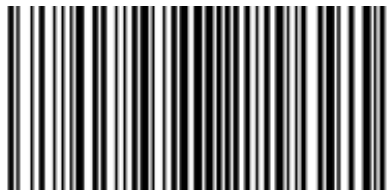


2-bit Check MOD10/MOD10 (Default)

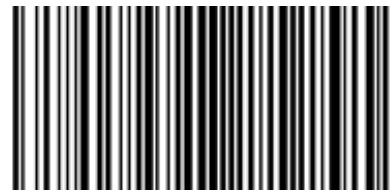


2-bit Check MOD10/MOD11

Set whether to transmit the check-bit



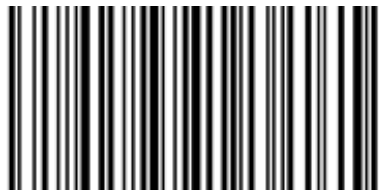
Transmit



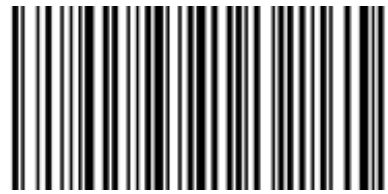
No Transmit (Default)

-Code 128

Enable/disable recognize code 128



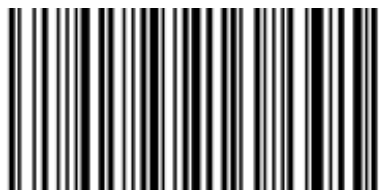
Enable



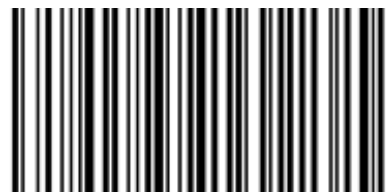
Disable (Default)

GS1 128

Enable/disable recognize GS1 128



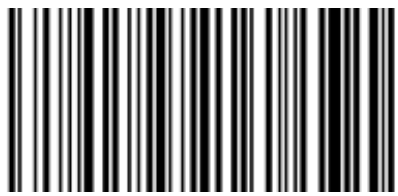
Enable (Default)



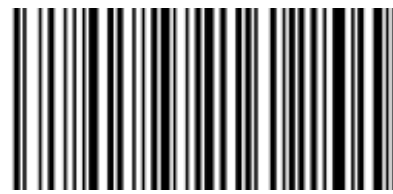
Disable

ISBT 128

Enable/disable recognize ISBT 128



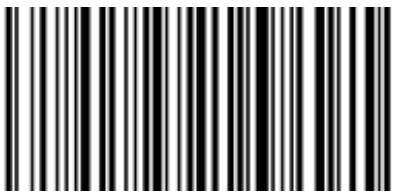
Enable (Default)



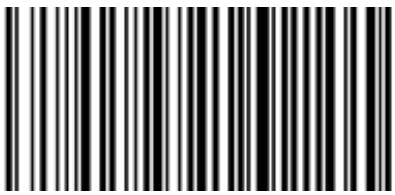
Disable

- Codabar

Enable/disable recognize Codabar

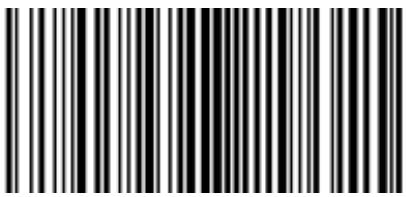


Enable Codabar (Default)

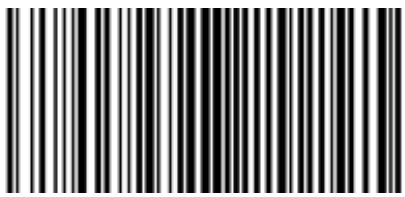


Disable Codabar

Start and end characters setting

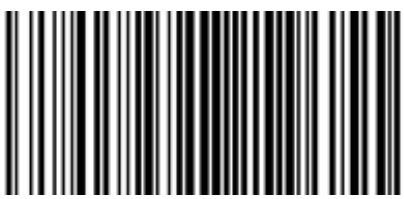


Enable CLSI

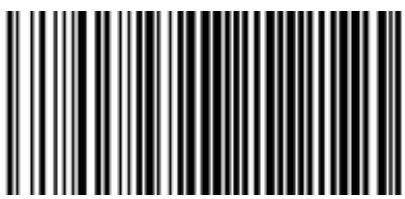


Disable CLSI (Default)

Enable this parameter to remove the start and end characters and insert space after the first, fifth, and tenth characters of the 14-character Codabar barcode.



Enable NOTIS



Disable NOTIS (Default)

Enable this parameter to remove the start and end characters.

- GS1 DataBar

Enable/disable recognize GS1 DataBar

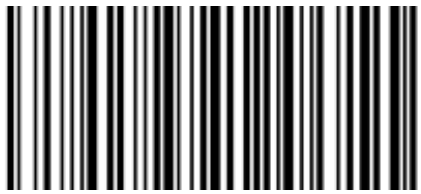


Enable GS1 DataBar (Default)

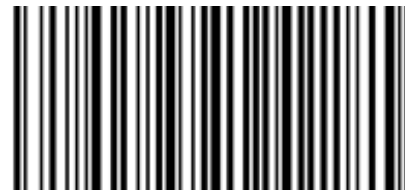


Disable GS1 DataBar

GS1 DataBar converse UPC/ENA setting



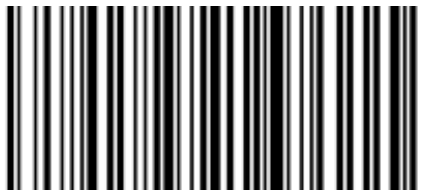
Enable



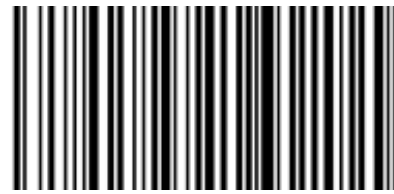
Disable (Default)

- GS1 DataBar Limited

Enable/disable recognize GS1 DataBar Limited



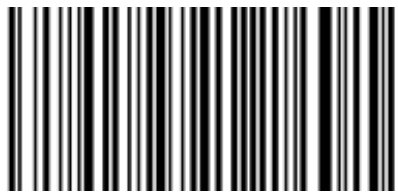
Enable



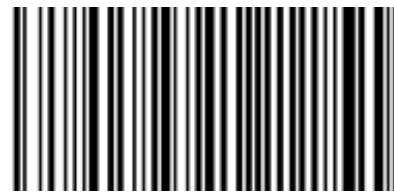
Disable (Default)

- GS1 DataBar Expanded

Enable/disable recognize GS1 DataBar Expanded



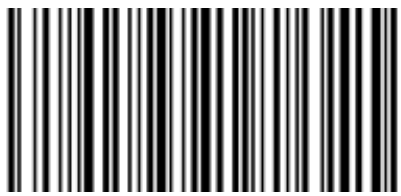
Enable (Default)



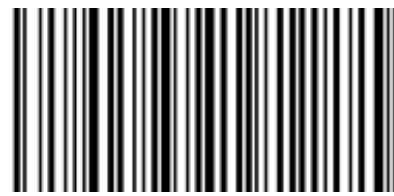
Disable

- PDF417

Enable/disable recognize PDF417



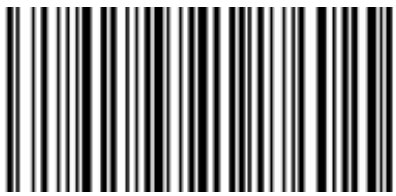
Enable (Default)



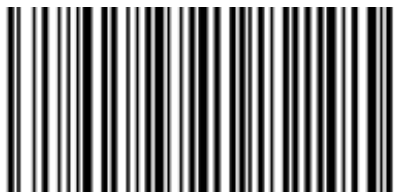
Disable

- Data Matrix

Enable/disable recognize Data Matrix

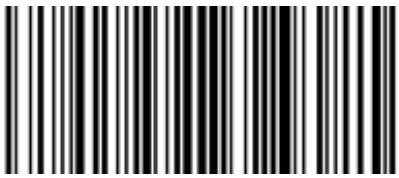


Enable (Default)

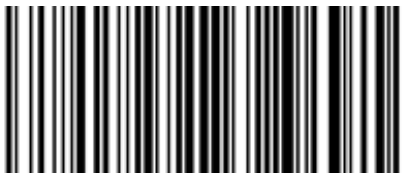


Disable Codabar

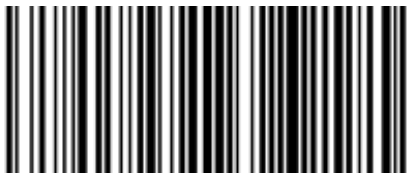
Setting whether to identify mirror Data Matrix



Auto recognize (Default)



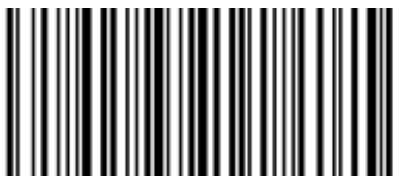
Enable



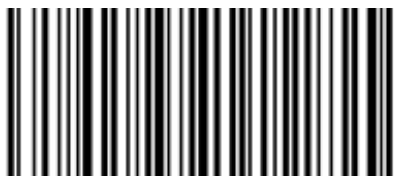
Disable

- QR

Enable/disable recognize QR

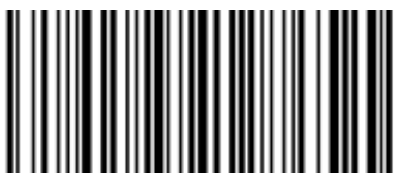


Enable (Default)



Disable

Setting enable/disable recognize Micro QR (This setting is only valid when QR is enabled to be recognized).



Enable (Default)



Disable

7 Troubleshooting

Q: There are some barcodes cannot be scanned.

A: Check the barcode type, open the barcode function; if it is verified, try to turn off.

Q: The barcode data is incorrect.

A: Check the error display of barcodes (all barcodes errors or specific barcode error)

Q: Barcode can be recognized but not displayed.

A: Firstly, confirm the working mode of the scanner. If it is in RS-232 serial port mode, you need to connect with serial cable; if it is in USB virtual serial port mode, you need to connect with USB cable, and the host accepts with serial port tool. Both modes need to ensure that the serial port attribute of the serial port tool on the host is consistent with the serial port attribute of the device. If it is connected to a HID virtual keyboard, then directly connected by a USB cable.

Q: Sighting Light and LED are not bright.

A: Check whether the device is powered on.

Re-plug the data cable.

Safety, maintenance and recycling instructions

1. Caution: Never open the device, the internal parts are danger, electrical shock.

2. Do not install this unit near water, for example, in a wet basement, in an unprotected outdoor installation or in any area classified as a wet.

3. Do not insert objects of any kind into this unit through openings as they may touch voltage points and short out parts that could result in fire or electric shock.

4. Do not spill any liquid on the unit. Danger of explosion!

5. Do not crush power cables, danger of short circuit!

6. Always connect to the manufacturer's recommended tension.

7. Clean the product with a soft and dry cloth.

8. Follow local regulations for disposing of the product.

Recycled

AEE REI-RAEE 5548 In this manual, the container (bin) symbol indicates that the product is subject to the European directive 2002/96 / EC, electrical and electronic products, batteries, and batteries and other accessories must necessarily be subject to a selective collection.

At the end of the life of the device, make use of the recycling bins. This gesture Will help reduce the health risks and preserve the environment.

Municipalities and distributors, Will provide essential details on recycling your old device. If this device carries an internal battery, it must be removed and deposited separately for proper management.

