iMozen group

SC511

Barcode Scanner

User Manual

2023.07. 04

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Chapter 1: Getting Started

Introduction

The SC511 is an affordable, full-featured barcode scanner designed for the retail sector. It supports a wide range of barcode types and features a rugged design that is plug-and-play for efficiency at your fingertips. The SC511 is not only an essential part of the workplace, but also a reliable assistant. The User Manual provides information on how to use the device.

Unboxing

Carefully remove the SC511 unit and other packaged items from the protective material and open them up. Save the packaging container for future storage and transport.

Check that you have received the following items:

- SC511 2D Barcode Scanner
- Simple instructions
- USB cable

Check for damage to the items. If any items are damaged or missing, please contact your customer support representative immediately.

Product Features

Side View

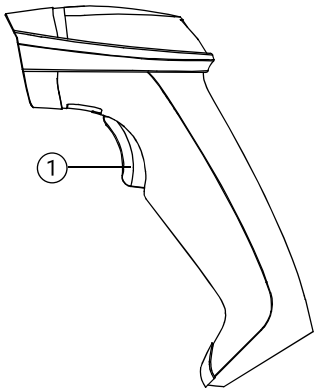


Table 1 *- Product Features and Functions of the SC511 from the Sideview*

No.	Product Features	Function
①	Scan Key	Each press indicates a scan. If it is set to the "Auto Sensing" mode, there is no need to press the button. Aim the scanning light at the center of the barcode, and the scan will be started automatically.

Front View

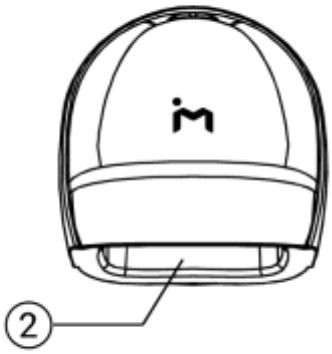


Table 2 - Product *Features and Functions of the SC511 from the Front View*

No.	Product Features	Function
②	Scan the front window.	Aim at the barcode for scanning from the front window. Do not aim at the eye and press the scan button.

Rear View

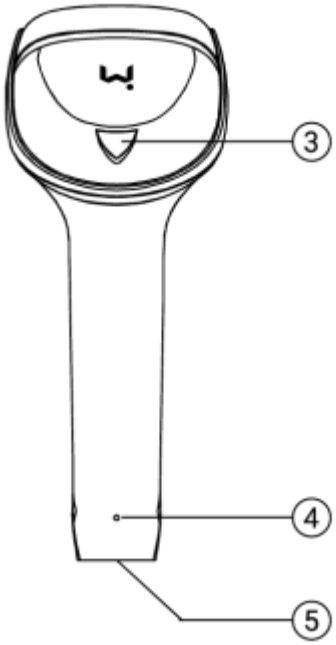


Table 3 *- Product Features and Functions of the SC511 from the Rear View*

No.	Product Features	Function
③	Indicator Light	Red light when power is connected. When decoding is successful, a beep will sound and a blue light will illuminate once. If the decoding is successful and no barcode is transmitted to the computer, please check again if the interface settings, cable installation or receiving software are correct.
④	Line Replacement Hole	Insert a paper clip into this hole until you hear a "click." The cable can be removed from the cable connection hole and the new cable can be inserted according to original shape of the hole. When you hear a "click," it means that the cable has been replaced.
⑤	Cable Connection Hole	Where the cable is connected/replaced.

Connecting the scanner

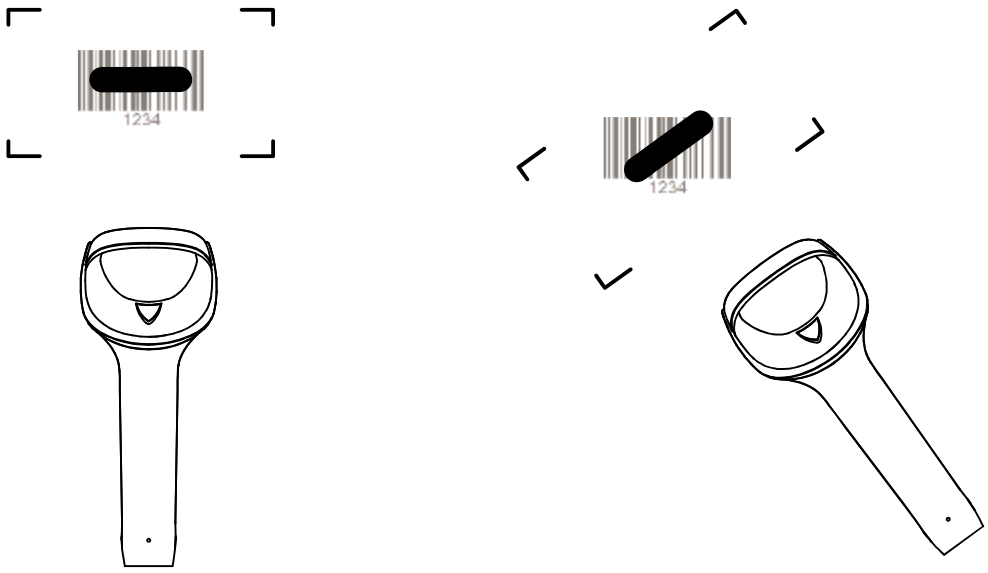
Connect the scanner to the dedicated connector on the USB cable and plug the other end into the USB port of your PC.

Reading Tips

Press the scan button so that the red line aiming point is aligned with the barcode and the barcode can be read from any direction.

If the barcode is small, make the scanner close to the barcode. If the barcode is large, the scanner should be away from the barcode, so that it is easier to read the barcode correctly.

If the barcode is highly reflective (owing to the surface coating, etc.), you may need to tilt the scanner at an angle to scan the barcode successfully.



Precautions for Use

If the interface is "USB COM" (factory default setting is "USB HID"), please note whether the console/device administrator has a device with COM and LPT.

If there is a barcode that cannot be scanned, please first confirm whether the scanner is enabled to read the barcode of the specific type. If the barcode cannot be read even when the scanner is enabled to read the barcode of the specific type, please provide the original barcode to the Customer Support Representative in the form of photocopy or scanned image.

Chapter 2: Scanner Settings

Turning on/off the Set Code

When the Set Code function is on, all barcodes can be scanned for scanner setup.

When the Set Code function is off, no other barcodes can be scanned for scanner settings. It will need to be turned back on to scan the barcode for scanner settings.

Scan sode function on (default)

Scan code function off

Version number

Scan the barcode below to display the scanner firmware version number.

Version number

Product default settings

Scan the barcode below to restore the product to the factory default settings.

DEFALT.

Restore to factory settings

Product user settings

Scan the barcode below to save the product's current parameters as user settings.

Save user settings

Scan the barcode below to restore the product to its saved user settings.

Restore user settings

Switching interfaces

The scanner supports USB-HID interface, USB-COM interface and RS232 interface.

USB HID interface

Scan the barcode below to set the SC511 to the USB-HID interface.

USB-HID interface (default)

RS232 interface

Scan the barcode below to set the SC511 as an RS232 interface.

RS232 interface

USB-COM interface

Scan the barcode below to configure the SC511 as a USB-COM interface. (Requires driver installation)

USB Interface Settings

Control Character Escaping

Turn on control character escaping

Turn off control character escaping (default)

Barcode content with confirmation input (Enter) line character handling (USB-HID)

Only 0A (Line feed LF)

Only 0D (Confirmation input CR) line feed (default)

Line feed for both 0A (line feed LR) and 0D (input confirmation CR)

Sending speed

Sets the speed at which data is sent under the USB-HID interface. If you are using a PC with low performance, it is recommended to select a low speed to ensure accurate transfer.

Send speed low (default)

Send speed medium

Send speed high

Customized send speed (2ms~50ms)

Case Output Control

Normal output (default)

Case reversal

All uppercase

All lowercase

Select a keyboard language

English (United States) (By default)

French (France)

Italian (Italy)

Italian 142 (Italy)

German (Germany)

Spanish (Spain)

Spanish (Latin America)

Finnish

Japanese

Russian (MS)

Russian (typewriter)

Arabic (101)

Irish

Polish (214)

Polish (Programmers)

Dutch (Netherlands)

Czech (QWERTZ)

Portuguese (Portugal)

Portuguese (Brazil)

Swedish (Sweden)

Turkish Q

Turkish F

Greek (MS)

French (Belgium)

English (UK)

Virtual Keyboard

Mode 1:

Characters between 0x20 and 0xFF, no virtual keyboard
Characters between 0x00 and 0x1F are output according to the control character definition (see Appendix/Visible Character ASCII Table, Control Character Set)

Mode 2:

All characters between 0x20 and 0xFF are output using the virtual keyboard
All characters between 0x00 and 0x1F are output according to the control character definition (see Appendix)

Mode 3.

All characters between 0x00 and 0xFF are output using the virtual keyboard

Virtual keyboard off (default)

Virtual keyboard on (mode 1)

Virtual keyboard on (mode 2)

Virtual keyboard on (mode 3)

Host operating system selection in virtual keyboard mode

WINDOWS (default)

MAC OS

LINUX

Output code format

When reading UNICODE, it can only be output correctly in Word, but in other text software it will output garbled code.
When the output encoding format is set to English/Latin-1 encoding, the output method in the USB-HID interface is affected by the virtual keyboard function switch.
When the output encoding format is set to UNICODE, the output method under the USB-HID interface is forced to virtual keyboard output.

English/Latin-1 encoding (default)

UNICODE encoding (Word)

RS232 interface setting

RS232 Transmission Rate Setting

Transfer rate 4800

Transfer rate 9600 (default)

Transfer rate 19200

Transfer rate 38400

Transfer rate 57600

Transfer rate 115200

Data bit, parity bit, stop bit settings

7-bit data, 1-bit stop, no parity check

7-bit data, 1-bit stop, even parity check

7-Bit data, 1-Bit stop, odd parity check

7-bit data, 2-bit stop, no parity check

7-bit data, 2-bit stop, even parity check

7-Bit data, 2-Bit stop, odd parity check

8-bit data, 1-bit stop, no parity check (default)

8-bit data, 1-bit stop, even parity check

8-Bit data, 1-Bit stop, odd parity check

8-bit data, 2-bit stop, no parity check

8-bit data, 2-bit stop, even parity check

8-Bit data, 2-Bit stop, odd parity check

GS Control Character Substitution

No Substitution

Output character "Ç", must scan "Virtual Keyboard Open" on page 20 first, see pages 58 and 59 for settings

Replace with Ç

Replace with |

Replace with ^]

Replace with]

Replace with <GS>

Scan Mode Setting

Auto-Sensing Mode

This product has an auto-sensing mode, which can be set by scanning the following barcode.

Auto-Sensing Mode Off (default)
Decode by pressing the scan button.

Auto-Sensing Mode Off (default)

Auto-sensing mode on
The scanner will automatically sense the barcode in front of the lens and decode it without the need to press the scan button.

Auto-sensing mode on

Same barcode delay time

If the set time is not exceeded, the same barcode will only be decoded once.

500ms interval

750ms interval (default)

1s interval

2s interval

Screen reading mode

When this mode is switched on, the SC511 will be able to read the barcode on the screen of your phone or PC.

Screen read mode off (default)

Screen read mode on

*Turning on this mode may cause a slight delay in reading printed barcodes

Center mode

When Center mode is on, the SC511 only decodes barcodes that are aligned to the Center area of the front window of the scanner.

Center Mode Off (default)

Center mode on

LED indicator setting

Decode success LED off

Decode success LED on (default)

Prompt tone setting

Volume level

Volume low

Volume high (default)

Activation tone

Start tone off

Start tone on (default)

Successful decoding tone

Successful decoding tone off

Successful decoding tone on (default)

Successful decoding tone 1 (default)

Successful decoding tone 2 (2.7K)

Successful decoding tone 3

Successful decoding tone long (default)

Successful decoding tone short

Error warning tones

The scanner emits four consecutive error warning tones when data transmission fails. A single error warning tone will occur when a barcode is scanned that cannot be recognized.

Error warning tone low (default)

Error warning tone medium

Error warning tone high

Start/end code setting

Start code

No start code (default)

Start code set to STX

End code

No end code used

End code set to Enter

End code set to Line Feed

End code set to Enter for line feed (default)

End code set to Position character

End code set to ETX

Custom Start Code

Turn on custom start code output

Turn off custom start code output (default)

Clear all custom start codes

Custom Start Code

*After scanning, please follow the barcode type ID table and data and edit barcode settings in the appendix

Custom end codes

Turn on custom end code output

Turn off custom end code output (default)

Clear all custom end codes

Custom end codes

*After scanning, please follow the barcode type ID table and data and edit barcode settings in the appendix

Inverted barcode settings

Only for 1D barcodes/DataMatrix/Aztec

Normal barcode only

Inverted barcode only

Both normal and inverted barcodes can be solved

Chapter 3: Barcodes

Turn on/off support for all barcodes

*Turning on support for all barcode types may result in reduced decoding speed, so it is recommended that you turn on the barcode type you need depending on your usage scenario.

Turn on support for all barcode types (default)

Turn off support for all barcode types

Turn on/off support for 1D barcodes

Turn on support for 1D barcodes

Turn off support for 1D barcodes

Turn on/off support for 2D barcodes

Turn on support for 2D barcodes

Turn off support for 2D barcodes

Codabar

Turn on/off barcode

Turn on support for Codabar

Turn off support for Codabar

Codabar start/end codes

Do not send Codabar start/end codes (default)

Send Codabar start/end codes

Codabar length limit

Codabar minimum length limit (0~50 bits)

Codabar maximum length limit (0~50 bits)

Code 39

Turn on/off barcode

Turn on support for Code 39

Turn off support for Code 39

Code 39 parity bit

Code 39 parity off (default)

Code 39 parity on does not send parity bits

Code 39 parity on sends parity bits

Code 39 Full ASCII

Full ASCII on

Full ASCII off (default)

Code 39 length limit

Code 39 Minimum length limit (0~50 bits)

Code 39 Maximum Length Limit (0~50 bits)

Code 32 (Code39 must be on)

Turn on/off barcode

Turn on support for Code 32

Turn off support for Code 32

Interleaved 2 of 5 (ITF25)

Turn on/off barcode

Turn on support for ITF25

Turn off support for ITF25

Interleaved 2 of 5 (ITF25) parity bit

ITF25 parity off (default)

ITF25 parity on does not send parity bits

ITF25 parity on sends parity bits

Interleaved 2 of 5 (ITF25) length selection

ITF25 any length (4-24 bits) (default)

ITF25 6 bit length

ITF25 8 bit length

ITF25 10 bit length

ITF25 12 bit length

ITF25 14 bit length

ITF25 16 bit length

ITF25 18 bit length

ITF25 20 bit length

ITF25 22 bit length

ITF25 24 bit length

Interleaved 2 of 5 length limit

Interleaved 2 of 5 minimum length limit (0~50 bits)

Interleaved 2 of 5 maximum length limit (0~50 bits)

Industrial 2 of 5

Turn on/off barcode

Turn on support for Industrial 2 of 5

Turn off support for Industrial 2 of 5

Industrial 2 of 5 length limit setting

Industrial 2 of 5 minimum length limit (0~50 bits)

Industrial 2 of 5 maximum length limit (0~50 bits)

Matrix 2 of 5 (25 code matrix) (4-24 bits)

Turn on/off barcode

Matrix 2 of 5 on

Matrix 2 of 5 off

Matrix 2 of 5 length limit setting

Matrix 2 of 5 minimum length limit (0-50 bits)

Matrix 2 of 5 maximum length limit (0~50 bits)

Code 93

Turn on/off barcode

Turn on support for Code 93

Turn off support for Code 93

Code 93 length limit setting

Code 93 minimum length limit (0~50 bits)

Code 93 maximum length limit (0~50 bits)

Code 11

Turn on/off barcode

Turn on support for Code 11

Turn off support for Code 11 (default)

Code 11 parity bit output

Code 11 parity bit output on

Code 11 parity bit output off (default)

Code 11 parity selection

Code 11 parity off (default)

Code 11 1-bit parity

Code 11 2-bit parity

Code 11 length limit setting

Code 11 minimum length limit (0~50 bits)

Code 11 maximum length limit (0~50 bits)

Code 128

Code-128

Turn on support for Code 128

Turn off support for Code 128

GS1-128

Turn on support for GS1-128

Turn off support for GS1-128

128 code length limit setting

Code 128 minimum length limit (0~50 bits)

Code 128 maximum length limit (0~50 bits)

UPC-A

Turn on/off barcode

Turn on UPC-A support

Turn off UPC-A support

UPC-A parity bit

Send UPC-A parity bits (default)

Do not send UPC-A parity bits

UPC-A to EAN-13

UPC-A to EAN-13 on

UPC-A to EAN-13 off (default)

UPC-E

Turn on/off barcode

Turn on support for UPC-E

Turn on support for UPC-E

UPC-E parity bit

Send UPC-E parity bits (default)

Do not send UPC-E parity bits

UPC-E extended to UPC-A

UPC-E extended to UPC-A on

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

EAN/JAN-8

Turn on/off barcode

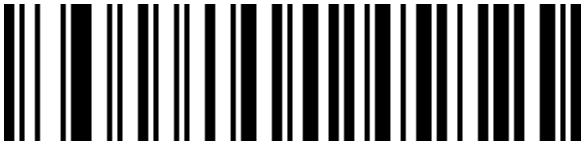
Turn on support for EAN/JAN-8

Turn off support for EAN/JAN-8

EAN/JAN-13

Turn on/off barcode

Turn on support for EAN/JAN-13



Turn off support for EAN/JAN-13

UPC/EAN/JAN add-on code

Ignore UPC/EAN/JAN add-on codes (default)

Decode UPC/EAN/JAN add-on codes

Self-adjusted UPC/EAN/JAN add-on codes

EAN13 to ISBN

Turn on EAN13 to ISBN

Turn off EAN13 to ISBN (default)

EAN13 to ISSN

Turn on EAN13 to ISSN

Turn off EAN13 to ISSN (default)

GS1 DataBar (RSS14)

Turn on support for GS1 DataBar

Turn off support for GS1 DataBar

GS1 DataBar Limited

Turn on support for GS1 DataBar Limited

Turn off support for GS1 DataBar Limited

GS1 DataBar Expanded

Turn on support for GS1 DataBar Expanded

Turn off support for GS1 DataBar Expanded

PDF417

Turn on support for PDF417

Turn off support for PDF417

Micro PDF417

Turn on support for Micro PDF417

Turn off support for Micro PDF417

QR Code

Turn on support for QR

Turn off support for QR

Micro QR

Turn on support for Micro QR

Turn off support for Micro QR

Data Matrix

Turn on support for Data Matrix

Turn off support for Data Matrix

Aztec Code

Turn on support for Aztec

Turn off support for Aztec

Appendix

Data and edit barcode

0

1

2

3

4

5

6

7

8

9

A

B

C

D

E

F

Cancel current setting

Cancel the previous read character

Cancel the previous read data

Save

Barcode Type ID Table

Code System Type	HEX	CODE ID (default)
All code systems	99	
Codabar	61	a
Code128	6A	j
Code32	3C	<
Code93	69	i
Code39	62	b
Code11	48	H
EAN-13	64	d
EAN-8	64	d
GS1 DataBar	79	y
GS1-128 (EAN-128)	6A	j
2 of 5		
Interleaved 2 of 5	65	e
Matrix 2 of 5	76	v
Industry 2 of 5	44	D
UPC-A	63	c
UPC-E	63	c
ISBN	42	B
ISSN	6E	n
Aztec Code	7A	z
DataMatrix	75	u
PDF417	72	r
Micro PDF417	53	S
QR Code	51	Q
Micro QR Code	51	Q

AIM ID Form

Code System Type	AIM ID	Description
Codabar	]Fm	m：0~1
Code128	]C0	m：0，1，2，4
Code32	]A0	
Code93	]G0	
Code39	]Am	m：0，1，3，4，5，7
Code11	]Hm	m：0，1，3，8，9
EAN-13 / EAN-8	]Em	m：0，1，3，4
GS1 DataBar	]e0	
GS1-128 (EAN-128)	]C1	
Interleaved 2 of 5	]Im	m：0，1，3
Matrix 2 of 5	]X0	
Industry 2 of 5	]S0	
UPC-A/ UPC-E	]Em	m：0，3
ISBN	]X0	
ISSN	]X0	
Aztec Code	]z0	
DataMatrix	]dm	m: 0~6
PDF417 / Micro PDF417	]Lm	m: 0~5
QR Code / Micro QR Code	]Qm	m: 0~6

Visible ASCII character table

Decimal	Hexadecimal	Characters	Decimal	Hexadecimal	Characters	Decimal	Hexadecimal	Characters

32	20	<SPACE>	64	40	@	96	60	`
33	21	!	65	41	A	97	61	a
34	22	“	66	42	B	98	62	b
35	23	#	67	43	C	99	63	c
36	24	$	68	44	D	100	64	d
37	25	%	69	45	E	101	65	e
38	26	&	70	46	F	102	66	f
39	27	‘	71	47	G	103	67	g
40	28	(	72	48	H	104	68	h
41	29	)	73	49	I	105	69	i
42	2A	*	74	4A	J	106	6A	j
43	2B	+	75	4B	K	107	6B	k
44	2C	,	76	4C	L	108	6C	l
45	2D	-	77	4D	M	109	6D	m
46	2E	.	78	4E	N	110	6E	n
47	2F	/	79	4F	O	111	6F	o
48	30	0	80	50	P	112	70	p
49	31	1	81	51	Q	113	71	q
50	32	2	82	52	R	114	72	r
51	33	3	83	53	S	115	73	s
52	34	4	84	54	T	116	74	s
53	35	5	85	55	U	117	75	u
54	36	6	86	56	V	118	76	v
55	37	7	87	57	W	119	77	w
56	38	8	88	58	X	120	78	x
57	39	9	89	59	Y	121	79	y
58	3A	:	90	5A	Z	122	7A	z
59	3B	;	91	5B	[	123	7B	{
60	3C	<	92	5C	\	124	7C	|
61	3D	=	93	5D	]	125	7D	}
62	3E	>	94	5E	^	126	7E	~
63	3F	?	95	5F	_			

Control character set (USB-HID)

Decimal	16-entry system	Corresponding key value (control character escape off)	Corresponding key value (control character escape on)
0	00	Reserved	Ctrl+@

1	01	Insert	Ctrl+A
2	02	Home	Ctrl+B
3	03	End	Ctrl+C
4	04	Delete	Ctrl+D
5	05	PageUp	Ctrl+E
6	06	PageDown	Ctrl+F
7	07	ESC	Ctrl+G
8	08	Backspace	Ctrl+H
9	09	Tab	Ctrl+I
10	0A	Enter (performance is influenced by the Enter line symbol processing settings)	Ctrl+J
11	0B	Caps Lock	Ctrl+K
12	0C	Print Screen	Ctrl+L
13	0D	Enter (performance is influenced by the Enter line symbol processing settings)	Ctrl+M
14	0E	Scroll Lock	Ctrl+N
15	0F	Pause/Break	Ctrl+O
16	10	F11	Ctrl+P
17	11	Arrow keys ↑	Ctrl+Q
18	12	Arrow keys ↓	Ctrl+R
19	13	Arrow keys ←	Ctrl+S
20	14	Arrow keys →	Ctrl+T
21	15	F12	Ctrl+U
22	16	F1	Ctrl+V
23	17	F2	Ctrl+W
24	18	F3	Ctrl+X
25	19	F4	Ctrl+Y
26	1A	F5	Ctrl+Z
27	1B	F6	Ctrl+[
28	1C	F7	Ctrl+\
29	1D	F8	Ctrl+]
30	1E	F9	Ctrl+^
31	1F	F10	Ctrl+_

Control character set (RS232 and USB-COM)

10-entry system	16-entry system	Corresponding characters
0	00	NUL
1	01	SOH
2	02	STX

3	03	ETX
4	04	EOT
5	05	ENQ
6	06	ACK
7	07	BEL
8	08	BS
9	09	HT
10	0A	LF
11	0B	VT
12	0C	FF
13	0D	CR
14	0E	SO
15	0F	SI
16	10	DLE
17	11	DC1
18	12	DC2
19	13	DC3
20	14	DC4
21	15	NAK
22	16	SYN
23	17	ETB
24	18	CAN
25	19	EM
26	1A	SUB
27	1B	ESC
28	1C	FS
29	1D	GS
30	1E	RS
31	1F	US

Some function setting descriptions and examples

Customized start/end code setting example

Set the barcode start/end codes by scanning up to 10 characters per start or end code. (To ensure that custom start/end codes can be output, please set the custom start/end code output option of the scanner to on.

Add custom start code XYZ to all barcode types

Query the Appendix barcode type ID table with a HEX value of 99 for all code systems. Query the ASCII table of visible characters, where XYZ corresponds to a HEX value of 58,59,5A.

1. Scan the custom start code and the Barcode Scanner will beep to indicate successful decoding.
2. Scan the appendix data and edit barcode for 9,9,5,8,5,9,5,A.
3. Save to complete the setup.
4. If you need to make changes to the scanned barcode before saving, you can also scan to cancel the previous reading or cancel the previous reading to set it up again.
5. If you want to abort this setting, simply scan to cancel the current setting.

Add a custom start code R to the QR code

1. Query the Appendix barcode type ID table for a QR code with a HEX value of 51. Check the ASCII table for the visible character, where the HEX value of R is 52.
2. Scan the custom start code, then scan the appendix data and edit barcode for 5, 1, 5, 2.
3. Save to complete the setup.

Cancel the custom start code of the QR code

1. When customizing the start/end code, no other characters are added after the barcode type, and saving clears the custom start/end code for this type of barcode.
2. After scanning the custom start code, scan the appendix/data and edit the 5,1 in the barcode.
3. Save to complete the setup.
4. If you have previously added a start code for all bars, the QR code start code will revert to the start code added for all bars after you have completed this setting.
5. To clear the start/end codes added for each barcode type, scan to clear all custom start codes and clear all custom end codes.

Barcode length limit setting example

When setting the minimum barcode length limit, ensure that the minimum length set is not greater than the current maximum length setting. Otherwise an error tone will appear. Similarly, when setting the maximum barcode length limit, ensure that the maximum length set is not less than the current minimum length.

Set the Code 128 barcode length to 4-12 bits

1. Scan the Code 128 minimum length limit, then scan the appendix data and edit barcode for 4, and save it.

2. Scan the Code 128 maximum length limit, then scan the appendix data and edit barcode for 1, 2.
3. Save to complete the setup.

Set the Interleaved 2 of 5 barcode length to 14 bits

To set the Interleaved 2 of 5 barcode length to 14 bits, you can scan the Quick Set barcode ITF25 14-bit length to set it directly, or you can set it via the barcode maximum and minimum lengths as follows:

1. Scan the setup barcode of Interleaved 2 of 5 minimum length limit, then scan the appendix data and edit barcode for 1, 4, and save it.
2. Scan the setup barcode of Interleaved 2 of 5 maximum length limit, then scan appendix data and edit barcode for 1, 4. Save to complete the setup.

Set Code 39 barcode length to any supported length

1. Scan the Code 39 minimum length limit, then scan the appendix data and edit barcode for 0, and save it.
2. Scan the Code 39 maximum length limit, then scan the appendix data and edit barcode for 0, save and you are done.

Example of sending speed settings for the USB keyboard

If the client PC is weak, transmission errors are likely to occur. To adjust the sending speed of the USB keyboard to a slower speed:

1. Scan the custom send speed, then scan the appendix data and edit barcode for 5, 0.
2. Save to complete the setup.

Warning Beeps

When there is an abnormality in the data transmission, the scanner will sound four consecutive beeps. Please check that the connection is OK.