



# FM30 Series

## FM3050 and FM3055

Fixed Mount Barcode Scanners  
User Guide



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## Revision History

Version	Description	Date
V1.0	Initial release.	April 14, 2016
V1.1	Added the “Data Port Pinout” section in Chapter 6.	May 3, 2016
V1.1.1	Changed the model FM25/FM30 to FM3055/FM3050 respectively.	September 20, 2016

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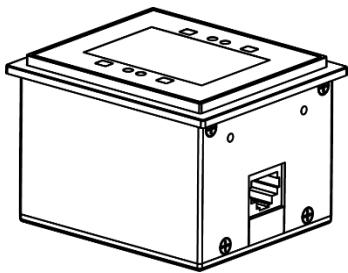
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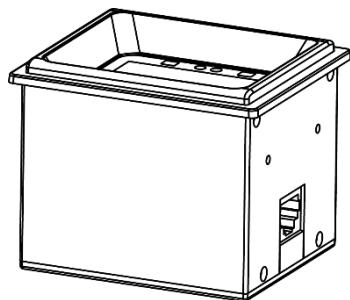
## Chapter 1 Standard Configuration

### 1. FM30 series fixed mount barcode scanner

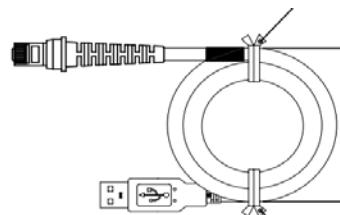
FM3055:



FM3050:



### 2. USB cable

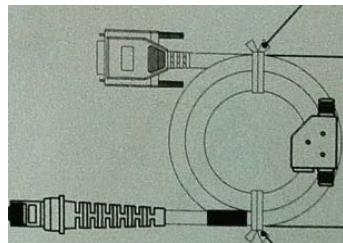


### 3. Quick Start Guide



## Chapter 2 Optional Configuration

1. RS-232 cable



2. 5V power adapter



**You should retain proof of purchase and ask your dealer for a warranty card.**

**Note:** You should check to make sure that everything on the standard configuration list is present and intact after opening the package. If any contents are damaged or missing, please keep the original package and contact your dealer immediately for after-sale service.

## Chapter 3 Safety Information

### Precautions

■ Disassembly and retrofit
● Do not disassemble or retrofit the device yourself. Artificial damages caused by failure to observe this precaution are not covered by the warranty.
■ External power supply
● Use only the supplied power adapter. Otherwise there is a risk of damage to the scanner.
■ Abnormal situation
● Keep the scanner away from fire or heat sources. If there is unusual odor, overheating or smoke, immediately cut off the power and disconnect the power adapter, and contact your dealer or Newland customer service center. Continued use in this case may result in fire or electric shock.
■ Drop damage
● If the scanner is damaged due to a drop from high place, immediately cut off the power and contact your dealer or Newland customer service center.
■ Mounting location
● Do not place the scanner on unstable or uneven surfaces.
● Do not expose the scanner to humidity, dust or direct sunlight.

### Maintenance

● The scan window should be kept clean using soft cloth or lens cleaning tissue. Do not use detergent to clean it.
● Do not scratch the scan window.
● Sudden temperature drops may cause condensation on the shell which could degrade the performance of the device. If condensation occurs, dry the device before use.

## Chapter 4 Product Features

Designed primarily for such applications as electronic tickets/coupons, mobile marketing and office automation, FM30 series fixed mount barcode scanner is able to read barcodes from paper and mobile phones.

It boasts the following features:

1. Digital barcode data capture

Capable of reading 1D and 2D barcodes off mobile phones.

2. Printed barcode data capture

Capable of reading 1D and 2D barcodes printed on paper.

3. Swift scanning

Delivers effortless, snappy and accurate reading of barcodes on various mobile phone LCD screens with different contrast ratios, colors and reflectances.

4. Easy to use

Simple configuration by scanning the programming barcodes provided in the user guide.

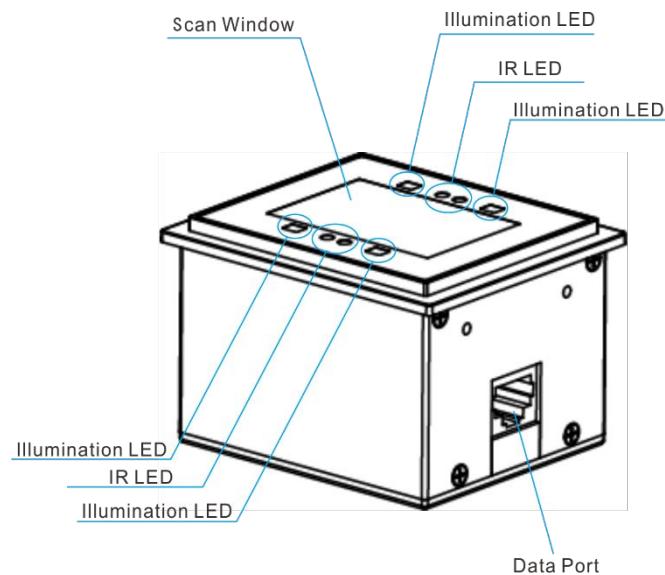
## Chapter 5 Technical Specifications

	<b>FM3055</b>	<b>FM3050</b>
<b>Processor</b>		IOTC 0370 CHIP
<b>Interface</b>		RS-232 (9.6~115.2Kbps), USB 1.1 (HID-KBW, HID-POS)
<b>Image Sensor</b>		752×480 CMOS
<b>Symbologies</b>	2D: PDF417, Data Matrix, QR Code 1D: EAN-13, EAN-8, UPC-A, UPC-E, ISSN, ISBN, Codabar, Code 128, Code 93, ITF-6, ITF-14, Interleaved 2 of 5, Industrial 2 of 5, Standard 2 of 5, Matrix 2 of 5, GS1 Databar (RSS-Expand, RSS-Limited, RSS-14), Code 39, Code 11, MSI-Plessey, Plessey	
<b>Scan Mode</b>		Sense mode
<b>Resolution</b>		≥10mil
<b>Light Source</b>		White LED
<b>Scan Window</b>	31.5mm×46.5mm	38.3mm*60.4mm
<b>Symbol Contrast</b>		≥30%
<b>FOV</b>	Diagonal: 85°, Horizontal: 63.7°, Vertical: 70°	
<b>Ambient Light</b>		0 ~ 100,000 LUX
<b>Max. Power Consumption</b>		1.75W
<b>Power Adapter</b>	Output: DC5V, 0.5A,	Input: AC100~240V, 50~60Hz
<b>Notification</b>		Beep
<b>Dimensions (L×W×H)</b>	78.2mm X 67.2mm X 52.3mm	78.2mm X 67.2mm X 62mm
<b>Weight</b>		300g
<b>Operating Temperature</b>		-10°C to + 50°C
<b>Storage Temperature</b>		-20°C to + 60°C
<b>Humidity</b>		5% - 95% (non-condensing)
<b>Certification</b>		FCC Part15 Class B, CE EMC Class B

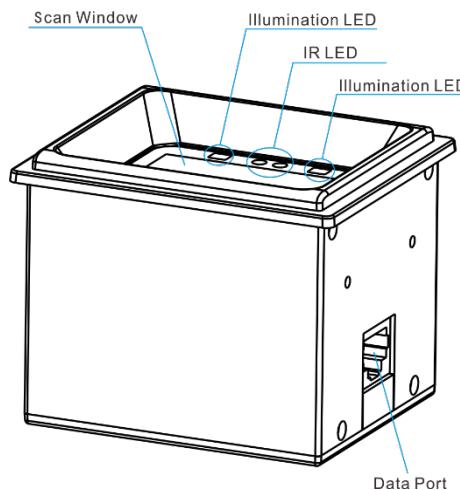
# Chapter 6 FM30 Scanner

## Overview

### FM3055 Scanner

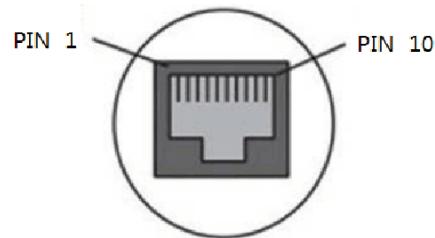


### FM3050 Scanner



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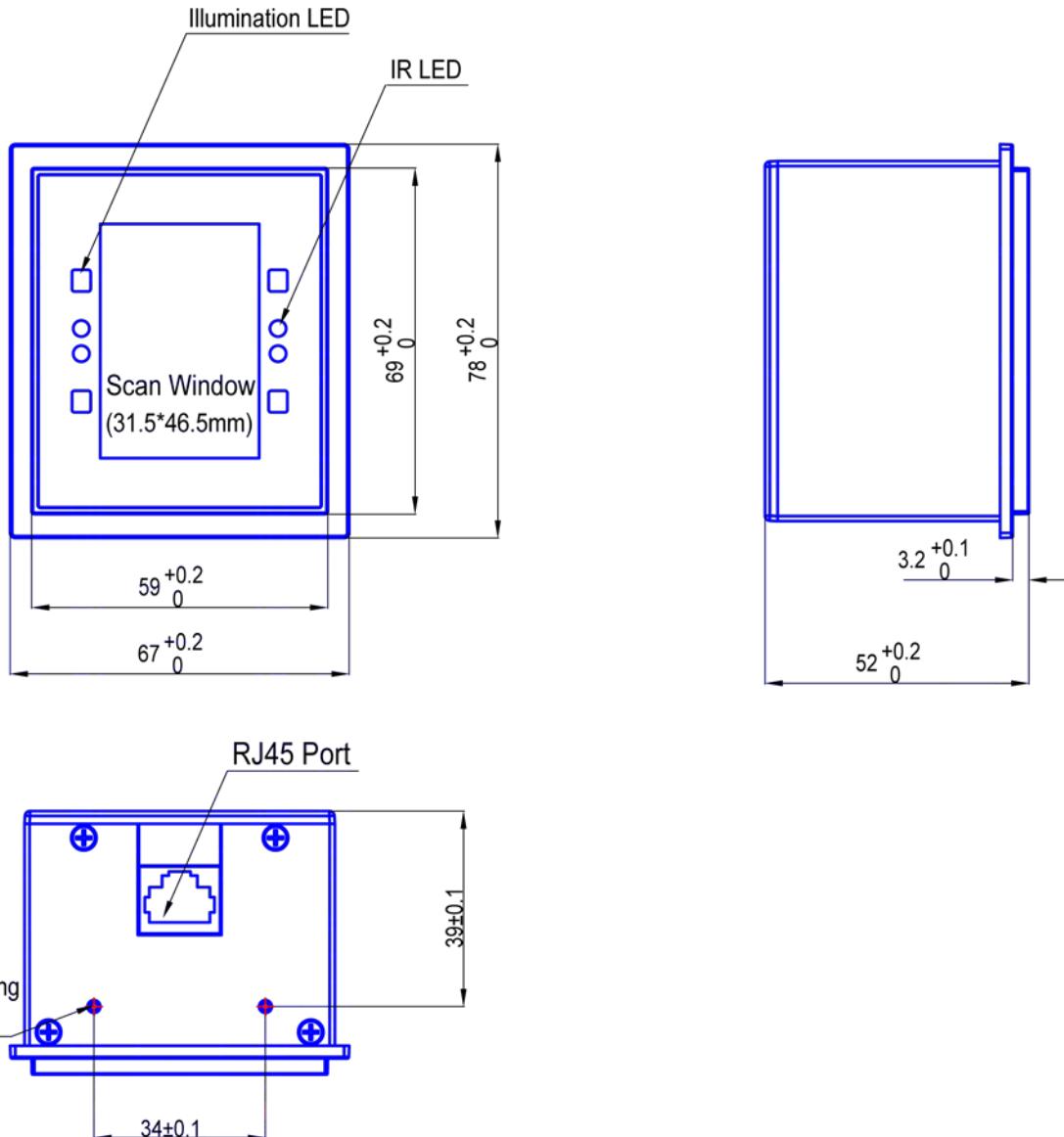
## Data Port Pinout



PIN	Definition	Type	Description
1	NC	-	Not connected
2	NC	-	Not connected
3	VCC	P	Power+ (+5V)
4	TXD	O	RS-232 Output
5	RXD	I	RS-232 Input
6	NC	-	Not connected
7	NC	-	Not connected
8	GND	P	Ground
9	D-	I/O	USB signal
10	D+	I/O	

## Dimensions

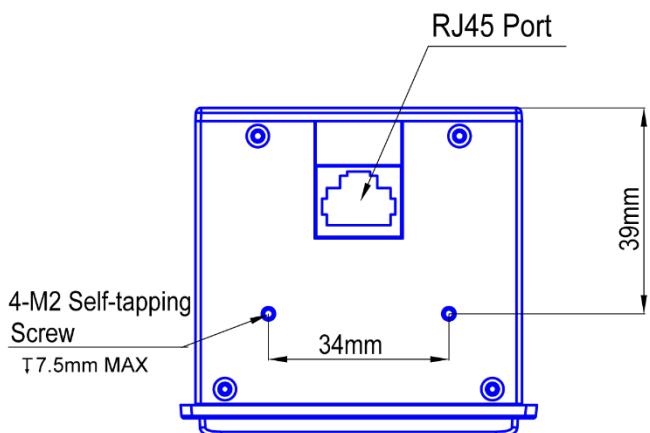
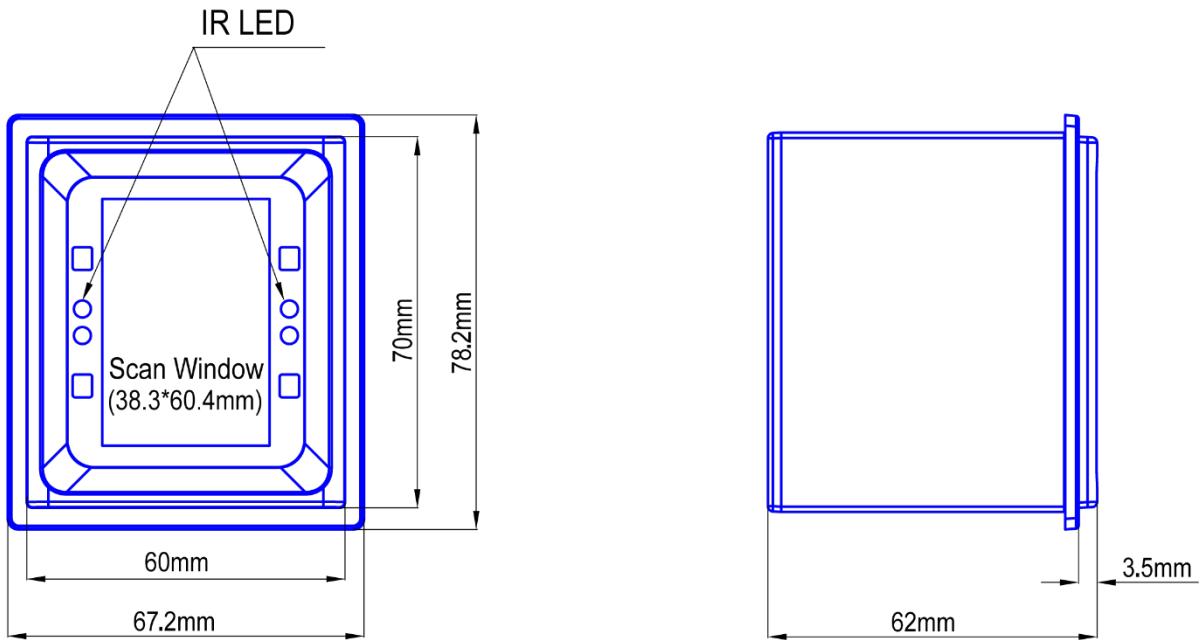
### FM3055 Scanner



Note: M2 self-tapping screws should be used when mounting the scanner. The part of the screws into the shell of the scanner cannot exceed 7.5mm.

---

## FM3050 Scanner

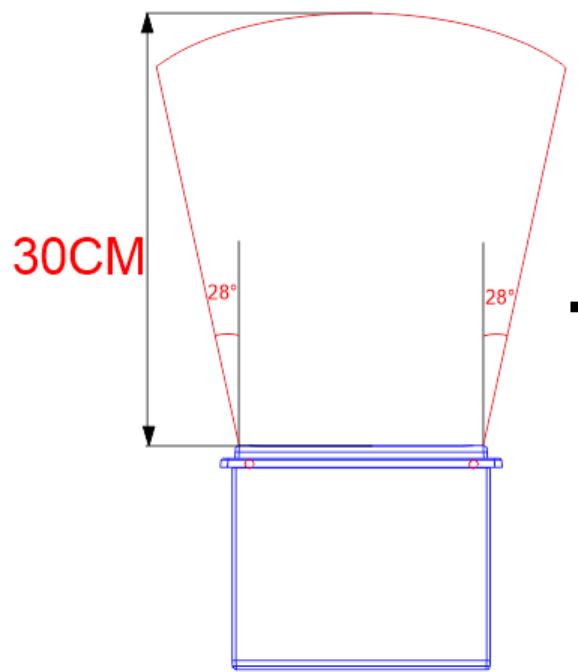


Note: M2 self-tapping screws should be used when mounting the scanner. The part of the screws into the shell of the scanner cannot exceed 7.5mm.

---

---

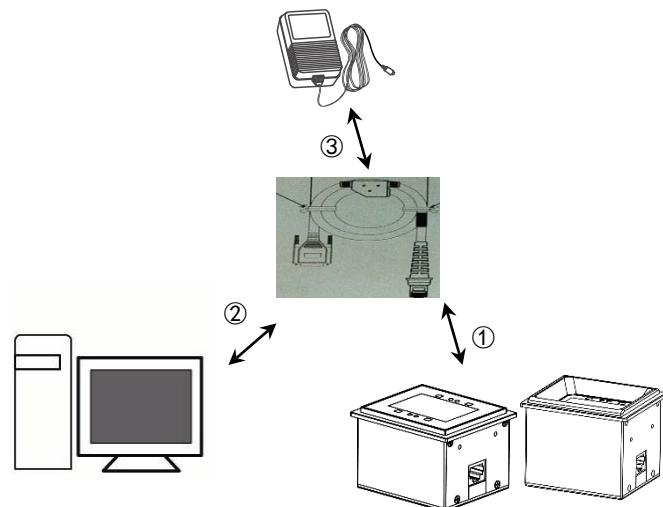
## IR Triggering Range



## Chapter 7 Wiring

1. If your scanner is equipped with an RS-232 interface:

- 1) Plug the supplied cable's RJ45 connector into the data port on the scanner.
- 2) Plug the cable's RS-232 connector into the RS-232 port on PC.
- 3) Plug the power adapter into the cable's power jack.

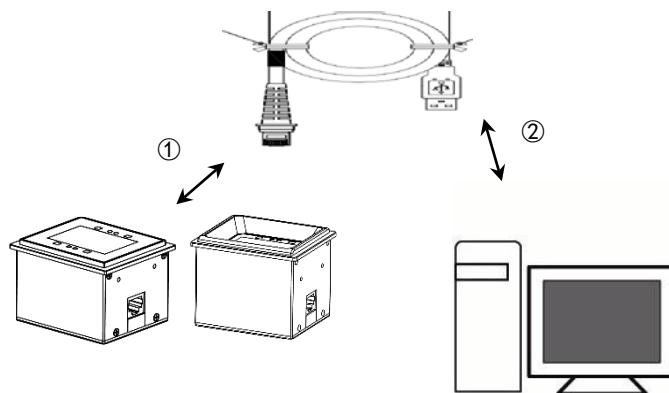


- 4) Connect the power adapter to a power outlet. After 0.5s the scanner will be powered on with a beep.

---

2. If your scanner is equipped with a USB interface:

- 1) Plug the supplied cable's RJ45 connector into the data port on the scanner.
- 2) Plug the cable's USB connector into the USB port on PC.



- 3) After 0.5s the scanner will be powered on with a beep.

## Chapter 8 Scanning Instructions

### Reading a Digital Barcode off Mobile Phone

1. Place the mobile phone screen close to the scan window and present the barcode to the center of the window, adjusting the distance between them within the range of 1cm-5cm.
2. For a successful read, the scanner will beep. After sending the data to the host, it will enter standby mode.

### Reading a Barcode Printed on Paper

1. Place the paper close to the scan window and present the barcode to the center of the window, adjusting the distance between them within the range of 1cm-5cm.
2. For a successful read, the scanner will beep. After sending the data to the host, it will enter standby mode.

## Chapter 9 System Settings

### IIIlumination

**Always ON:** IIIlumination LED keeps ON after the scanner is powered on.

**Normal:** IIIlumination LED is turned on when the scanner is reading barcode.

**OFF:** IIIlumination LED is OFF all the time.



W0C0004

\*\* Normal



W0C0000

OFF



W0C000C

Always ON

---

## Notification

### Mute Mode

Scanning the **Enable Mute Mode/Disable Mute Mode** can turn off/on all notification beeps.



W400000

Enable Mute Mode



W400040

\*\* Disable Mute Mode

### Good Read Beep



W040E04

\*\* Good Read Beep On



W040E00

Good Read Beep Off

---

## Good Read Beep Frequency/Duration



WFF09DA

Low Frequency



WFF094B

\*\* Medium Frequency



WFF0925

High Frequency



WFF0A1F

40ms



WFF0A3E

\*\* 80ms



WFF0A5D

120ms

---

## Scan Mode

### Sense Mode

The scanner activates a decode session every time when it detects a change in ambient illumination.



\*\* Sense Mode

## Factory Defaults

Scanning the following barcode can restore the scanner to the factory defaults.

You may need to reset your scanner when:

1. scanner is not properly configured so that it fails to decode barcodes;
2. you forget previous configuration and want to avoid its impact;
3. functions that are rarely used have been enabled for the time being.



Restore All Factory Defaults

---

## Digit Barcodes

After scanning numeric barcode(s), you need to scan the **Save** barcode to save the data.



0



1



2



3



4



5



6



7



8



9



D00000A

A



D00000B

B



D00000C

C



D00000D

D



D00000E

E



D00000F

F

---

## Save/Cancel Barcodes

After reading numeric barcode(s), you need to scan the **Save** barcode to save the data. If you scan the wrong digit(s), you can either scan the **Cancel the Last Digit** barcode and then the correct digit, or scan the **Cancel All Digits** barcode and then the digits you want.

For instance, after reading the **Decode Session Timeout** barcode and numeric barcodes “1”, “2” and “3”, you scan:

**Cancel the Last Digit:** The last digit “3” will be removed.

**Cancel All Digits:** All digits “123” will be removed.



Save



Cancel the Last Digit



Cancel All Digits

## Chapter 10 RS-232 Interface

When the scanner is connected to a host device through its RS-232 interface, serial communication is enabled by default. However, to ensure smooth communication and accuracy of data, you need to set the scanner's communication parameters (including baud rate) to match the host's settings. The default settings of the scanner are 115200bps, no parity check, 8 data bits and 1 stop bit.



Baud Rate 9600



Baud Rate 1200



Baud Rate 2400



Baud Rate 4800



Baud Rate 14400



Baud Rate 19200



Baud Rate 38400



Baud Rate 57600



\*\* Baud Rate 115200

## Chapter 11 USB Interface

When the scanner is connected to a host device through its USB interface, **USB HID-KBW** is enabled by default. You may switch to **HID-POS** or **USB COM Port Emulation** by scanning the appropriate barcode below.

### HID-POS



W030D03

HID-POS

### USB COM Port Emulation



W030D02

USB COM Port Emulation

### USB HID-KBW



W030D01

\*\* USB HID-KBW

---

Three methods of input are provided for USB HID-KBW: Standard Keyboard, Function Key Mapping, Emulate ALT+Keypad.

## Standard Keyboard



\*\* Standard Keyboard

## Function Key Mapping

When **Function Key Mapping** is enabled, function character (0x00 - 0x1F) are sent as ASCII sequences over the numeric keypad.

1. CTRL Make
2. Press function key (Refer to the **ASCII Function Key Mapping Table** on the following page)
3. CTRL Break



Function Key Mapping

---

---

### ASCII Function Key Mapping Table

ASCII(HEX)	Function key	ASCII(HEX)	Function key
00	2	10	P
01	A	11	Q
02	B	12	R
03	C	13	S
04	D	14	T
05	E	15	U
06	F	16	V
07	G	17	W
08	H	18	X
09	I	19	Y
0A	J	1A	Z
0B	K	1B	[
0C	L	1C	\
0D	M	1D	]
0E	N	1E	6
0F	O	1F	.

---

## **Emulate ALT+Keypad**

When **Emulate ALT+Keypad** is enabled, any ASCII character (0x00 - 0xFF) is sent over the numeric keypad no matter which keyboard type is selected.

1. ALT Make
2. Enter the number corresponding to the ASCII character on the keypad.
3. ALT Break



**Emulate ALT+Keypad**

---

## USB Country Keyboard Types



WFF6B00

\*\* 1 - U.S.



WFF6B01

2 - Belgium



WFF6B02

3 - Brazil



WFF6B03

4 - Canada



WFF6B04

5 - Czech



WFF6B05

6 - Denmark



WFF6B06

7 - Finland



WFF6B07

8 - France



WFF6B08

9 - Austria



WFF6B09

10 - Greece



WFF6B0A

11 - Hungary



WFF6B0B

12 - Israel



WFF6B0C

13 - Italy



WFF6B0D

14 - Latin America



WFF6B0E

15 - Netherland



WFF6B0F

16 - Norway



WFF6B10

17 - Poland



WFF6B11

18 - Portugal



WFF6B12

19 - Romania



WFF6B13

20 - Russia



WFF6B15

21 - Slovakia



WFF6B16

22 - Spain



WFF6B17

23 - Sweden



WFF6B18

24 - Switzerland



WFF6B19

25 - Turkey1



WFF6B1A

26 - Turkey 2



WFF6B1B

27 - UK



WFF6B1C

28 - Japan

## Chapter 12 Symbologies

### Introduction

Every symbology (barcode type) has its own unique attributes. This chapter provides programming barcodes for configuring the scanner so that it can identify various barcode symbologies. It is recommended to disable those that are rarely used to increase the efficiency of the scanner.

### Global Settings

#### Disable All Symbologies

If all symbologies are disabled, the scanner can only identify programming barcodes.



**Disable All Symbologies**

#### Enable All Symbologies



**Enable All Symbologies**

---

## **Enable 1D Symbologies**



**Enable 1D Symbologies**

## **Disable 1D Symbologies**



**Disable 1D Symbologies**

## **Enable 2D Symbologies**



**Enable 2D Symbologies**

## **Disable 2D Symbologies**



**Disable 2D Symbologies**

---

---

## **Code 128**

**Restore Factory Defaults**



WFFD990

**Restore the Factory Defaults of Code 128**

**Enable/Disable Code 128**



W011601

**\*\* Enable Code 128**



W011600

**Disable Code 128**

---

## **UCC/EAN-128 (GS1-128)**

### **Restore Factory Defaults**



WFFD991

**Restore the Factory Defaults of UCC/EAN-128**

### **Enable/Disable UCC/EAN-128**



W011701

**\*\* Enable UCC/EAN-128**



W011700

**Disable UCC/EAN-128**

---

---

## **AIM-128**

### **Restore Factory Defaults**



WFFD992

**Restore the Factory Defaults of AIM-128**

### **Enable/Disable AIM-128**



W101610

**\*\* Enable AIM-128**



W101600

**Disable AIM-128**

---

## EAN-8

### Restore Factory Defaults



WFFD994

**Restore the Factory Defaults of EAN-8**

### Enable/Disable EAN-8



W011301

**\*\* Enable EAN-8**



W011300

**Disable EAN-8**

### Transmit Check Digit

EAN-8 is 8 digits in length with the last one as its check digit used to verify the integrity of the data.



W041304

**\*\* Transmit Check Digit**



W041300

**Do Not Transmit Check Digit**

---

## 2-Digit Add-On Code

An EAN-8 barcode can be augmented with a two-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is an EAN-8 barcode while the part circled by red dotted line is add-on code.



Enable 2-Digit Add-On Code



\*\* Disable 2-Digit Add-On Code

## 5-Digit Add-On Code

An EAN-8 barcode can be augmented with a five-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is an EAN-8 barcode while the part circled by red dotted line is add-on code.



Enable 5-Digit Add-On Code



\*\* Disable 5-Digit Add-On Code

---

## EAN-8 Extension

**Disable EAN-8 Zero Extend:** Transmit EAN-8 barcodes as is.

**Enable EAN-8 Zero Extend:** Add five leading zeros to decoded EAN-8 barcodes to extend to 13 digits.



\*\* Disable EAN-8 Zero Extend



Enable EAN-8 Zero Extend

---

## EAN-13

### Restore Factory Defaults



WFFD995

Restore the Factory Defaults of EAN-13

### Enable/Disable EAN-13



W011101

\*\* Enable EAN-13



W011100

Disable EAN-13

### Transmit Check Digit

EAN-13 is 13 digits in length with the last one as its check digit used to verify the integrity of the data.



W041104

\*\* Transmit Check Digit



W041100

Do Not Transmit Check Digit

---

---

## 2-Digit Add-On Code

An EAN-13 barcode can be augmented with a two-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is an EAN-8 barcode while the part circled by red dotted line is add-on code.



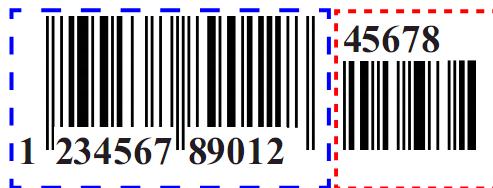
Enable 2-Digit Add-On Code



\*\* Disable 2-Digit Add-On Code

## 5-Digit Add-On Code

An EAN-13 barcode can be augmented with a five-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is an EAN-8 barcode while the part circled by red dotted line is add-on code.



Enable 5-Digit Add-On Code



\*\* Disable 5-Digit Add-On Code

---

## **ISSN**

**Restore Factory Defaults**



WFFD996

**Restore the Factory Defaults of ISSN**

**Enable/Disable ISSN**



W401140

**Enable ISSN**



W401100

**\*\* Disable ISSN**

---

## ISBN

### Restore Factory Defaults



WFFD997

Restore the Factory Defaults of ISBN

### Enable/Disable ISBN



W011201

\*\* Enable ISBN



W011200

Disable ISBN

### Set ISBN Format



W041200

\*\* ISBN-13



W041204

ISBN-10

---

## UPC-E

### Restore Factory Defaults



WFFD998

Restore the Factory Defaults of UPC-E

### Enable/Disable UPC-E



W011501

\*\* Enable UPC-E



W011500

Disable UPC-E

### Transmit Check Digit

UPC-E is 8 digits in length with the last one as its check digit used to verify the integrity of the data.



W041504

\*\* Transmit Check Digit



W041500

Do Not Transmit Check Digit

---

---

## 2-Digit Add-On Code

A UPC-E barcode can be augmented with a two-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is a UPC-E barcode while the part circled by red dotted line is add-on code.



W201520

Enable 2-Digit Add-On Code



W201500

\*\* Disable 2-Digit Add-On Code

## 5-Digit Add-On Code

A UPC-E barcode can be augmented with a five-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is a UPC-E barcode while the part circled by red dotted line is add-on code.



W401540

Enable 5-Digit Add-On Code



W401500

\*\* Disable 5-Digit Add-On Code

---

---

## Transmit System Character



W081508

Transmit System Character "0"



W081500

\*\* Do Not Transmit System Character "0"

## UPC-E Extension

**Disable UPC-E Extend:** Transmit UPC-E barcodes as is.

**Enable UPC-E Extend:** Extend UPC-E barcodes to make them compatible in length to UPC-A.



W801580

Enable UPC-E Extend



W801500

\*\* Disable UPC-E Extend

---

## **UPC-A**

### **Restore Factory Defaults**



**Restore the Factory Defaults of UPC-A**

### **Enable/Disable UPC-A**



**\*\* Enable UPC-A**



**Disable UPC-A**

### **Transmit Check Digit**

UPC-A is 13 digits in length with the last one as its check digit used to verify the integrity of the data.



**\*\* Transmit Check Digit**



**Do Not Transmit Check Digit**

---

## 2-Digit Add-On Code

A UPC-A barcode can be augmented with a two-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is a UPC-E barcode while the part circled by red dotted line is add-on code.



Enable 2-Digit Add-On Code



\*\* Disable 2-Digit Add-On Code

## 5-Digit Add-On Code

A UPC-A barcode can be augmented with a five-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is a UPC-E barcode while the part circled by red dotted line is add-on code.



Enable 5-Digit Add-On Code



\*\* Disable 5-Digit Add-On Code

---

## Transmit Preamble Character



W081408

Transmit Preamble Character “0”



W081400

\*\* Do Not Transmit Preamble Character “0”

---

## **Interleaved 2 of 5**

**Restore Factory Defaults**



WFFD99A

**Restore the Factory Defaults of Interleaved 2 of 5**

**Enable/Disable Interleaved 2 of 5**



W011801

**\*\* Enable Interleaved 2 of 5**



W011800

**Disable Interleaved 2 of 5**

---

---

## Check Digit Verification

A check digit is optional for Interleaved 2 of 5 and can be added as the last digit. It is a calculated value used to verify the integrity of the data.

**Disable:** The scanner transmits Interleaved 2 of 5 barcodes as is.

**Do Not Transmit Check Digit after Verification:** The scanner checks the integrity of all Interleaved 2 of 5 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

**Transmit Check Digit after Verification:** The scanner checks the integrity of all Interleaved 2 of 5 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.



WOC1800

\*\* Disable



WOC1804

Do Not Transmit Check Digit after Verification



WOC180C

Transmit Check Digit after Verification

---

## ITF-6

### Restore Factory Defaults



WFFD99B

Restore the Factory Defaults of ITF-6

### Enable/Disable ITF-6



W011900

\*\* Disable ITF-6



W051901

Enable ITF-6 But Do Not Transmit Check Digit



W051905

Enable ITF-6 and Transmit Check Digit

---

---

## ITF-14

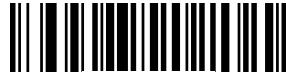
### Restore Factory Defaults



WFFD99C

Restore the Factory Defaults of ITF-14

### Enable/Disable ITF-14



W201800

Disable ITF-14



WA01820

Enable ITF-14 But Do Not Transmit Check Digit



WA018A0

\*\* Enable ITF-14 and Transmit Check Digit

---

---

## **Matrix 2 of 5 (European Matrix 2 of 5)**

**Restore Factory Defaults**



WFFD99F

**Restore the Factory Defaults of Matrix 2 of 5**

**Enable/Disable Matrix 2 of 5**



W011A01

**\*\* Enable Matrix 2 of 5**



W011A00

**Disable Matrix 2 of 5**

---

## Check Digit Verification

A check digit is optional for Matrix 2 of 5 and can be added as the last digit. It is a calculated value used to verify the integrity of the data.

**Disable:** The scanner transmits Matrix 2 of 5 barcodes as is.

**Do Not Transmit Check Digit After Verification:** The scanner checks the integrity of all Matrix 2 of 5 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

**Transmit Check Digit After Verification:** The scanner checks the integrity of all Matrix 2 of 5 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.



\*\* Disable



Do Not Transmit Check Digit after Verification



Transmit Check Digit after Verification

---

## **Industrial 25**

### **Restore Factory Defaults**



WFFD9A0

**Restore the Factory Defaults of Industrial 25**

### **Enable/Disable Industrial 25**



W081908

**\*\* Enable Industrial 25**



W081900

**Disable Industrial 25**

---

---

## Check Digit Verification

A check digit is optional for Industrial 25 and can be added as the last digit. It is a calculated value used to verify the integrity of the data.

**Disable:** The scanner transmits Industrial 25 barcodes as is.

**Do Not Transmit Check Digit after Verification:** The scanner checks the integrity of all Industrial 25 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

**Transmit Check Digit after Verification:** The scanner checks the integrity of all Industrial 25 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.



W201900

**\*\* Disable**



W601920

**Do Not Transmit Check Digit after Verification**



W601960

**Transmit Check Digit after Verification**

---

## **Standard 25**

### **Restore Factory Defaults**



WFFD9A1

**Restore the Factory Defaults of Standard 25**

### **Enable/Disable Standard 25**



W101A10

**\*\* Enable Standard 25**



W101A00

**Disable Standard 25**

---

---

## Check Digit Verification

A check digit is optional for Standard 25 and can be added as the last digit. It is a calculated value used to verify the integrity of the data.

**Disable:** The scanner transmits Standard 25 barcodes as is.

**Do Not Transmit Check Digit after Verification:** The scanner checks the integrity of all Standard 25 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

**Transmit Check Digit after Verification:** The scanner checks the integrity of all Standard 25 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.



W401A00

\*\* Disable



WC01A40

Do Not Transmit Check Digit after Verification



WC01AC0

Transmit Check Digit after Verification

---

## Code 39

### Restore Factory Defaults



WFFD9A2

Restore the Factory Defaults of Code 39

### Enable/Disable Code 39



W011C01

\*\* Enable Code 39



W011C00

Disable Code 39

### Transmit Start/Stop Character

Code 39 uses an asterisk (\*) for both the start and the stop characters. You can choose whether or not to transmit the start/stop characters by scanning the appropriate barcode below.



W041C04

Transmit Start/Stop Character



W041C00

\*\* Do Not Transmit Start/Stop Character

---

---

## **Enable/Disable Code 39 Full ASCII**

The scanner can be configured to identify all ASCII characters by scanning the appropriate barcode below.



W201C00

**\*\* Disable Code 39 Full ASCII**



W201C20

**Enable Code 39 Full ASCII**

---

## Check Digit Verification

A check digit is optional for Code 39 and can be added as the last digit. It is a calculated value used to verify the integrity of the data.

**Disable:** The scanner transmits Code 39 barcodes as is.

**Do Not Transmit Check Digit after Verification:** The scanner checks the integrity of all Code 39 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

**Transmit Check Digit after Verification:** The scanner checks the integrity of all Code 39 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.



W081C00

\*\* Disable



W181C08

Do Not Transmit Check Digit after Verification



W181C18

Transmit Check Digit after Verification

---

## Codabar

### Restore Factory Defaults



WFFD9A3

Restore the Factory Defaults of Codabar

### Enable/Disable Codabar



W011E01

\*\* Enable Codabar



W011E00

Disable Codabar

---

## Check Digit Verification

Check digits are optional for Codabar and can be added as the last two digits, which are calculated values used to verify the integrity of the data.

**Disable:** The scanner transmits Codabar barcodes as is.

**Do Not Transmit Check Digit after Verification:** The scanner checks the integrity of all Codabar barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the checks will be transmitted except the last two digits, whereas those failing them will not be transmitted.

**Transmit Check Digit after Verification:** The scanner checks the integrity of all Codabar barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the checks will be transmitted, whereas those failing them will not be transmitted.



W101E00

\*\* Disable



W301E10

Do Not Transmit Check Digit after Verification



W301E30

Transmit Check Digit after Verification

---

## Transmit Start/Stop Character



W021E00

**Do Not Transmit Start/Stop Character**



W021E02

**\*\* Transmit Start/Stop Character**



W0C1E00

**\*\* ABCD/ABCD as the Start/Stop Character**



W0C1E04

**ABCD/TN\*E as the Start/Stop Character**



W0C1E08

**abcd/abcd as the Start/Stop Character**



W0C1E0C

**abcd/tn\*e as the Start/Stop Character**

---

## **Code 93**

### **Restore Factory Defaults**



WFFD9A4

**Restore the Factory Defaults of Code 93**

### **Enable/Disable Code 93**



W081208

**\*\* Enable Code 93**



W081200

**Disable Code 93**

---

## Check Digit Verification

Check digits are optional for Code 93 and can be added as the last two digits, which are calculated values used to verify the integrity of the data.

**Disable:** The scanner transmits Code 93 barcodes as is.

**Do Not Transmit Check Digit after Verification:** The scanner checks the integrity of all Code 93 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the checks will be transmitted except the last two digits, whereas those failing them will not be transmitted.

**Transmit Check Digit after Verification:** The scanner checks the integrity of all Code 93 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the checks will be transmitted, whereas those failing them will not be transmitted.



W201200

**Disable**



W601220

**\*\* Do Not Transmit Check Digit after Verification**



W601260

**Transmit Check Digit after Verification**

---

## **Code 11**

### **Restore Factory Defaults**



WFFD9A5

**Restore the Factory Defaults of Code 11**

### **Enable/Disable Code 11**



W011D01

**\*\* Enable Code 11**



W011D00

**Disable Code 11**

---

---

## Check Digit Verification

Check digits are optional for Code 11 and can be added as the last one or two digits, which are calculated values used to verify the integrity of the data.

If the **Disable** option is enabled, the scanner transmits Code 11 barcodes as is.



**Disable**



**\*\* One Check Digit, MOD11**



**Two Check Digits, MOD11/MOD11**



**Two Check Digits, MOD11/MOD9**



**One Check Digit, MOD11 (Len <= 11)**  
**Two Check Digits, MOD11/MOD11 (Len > 11)**



**One Check Digit, MOD11 (Len <= 11)**  
**Two Check Digits, MOD11/MOD9 (Len > 11)**



**Do Not Transmit Check Digit**



**\*\* Transmit Check Digit**

---

## Plessey

### Restore Factory Defaults



WFFD9A6

Restore the Factory Defaults of Plessey

### Enable/Disable Plessey



W011F01

\*\* Enable Plessey



W011F00

Disable Plessey

---

## Check Digit Verification

Check digits are optional for Plessey and can be added as the last one or two digits, which are calculated values used to verify the integrity of the data.

**Disable:** The scanner transmits Plessey barcodes as is.

**Do Not Transmit Check Digit after Verification:** The scanner checks the integrity of all Plessey barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the checks will be transmitted except the last two digits, whereas those failing them will not be transmitted.

**Transmit Check Digit after Verification:** The scanner checks the integrity of all Plessey barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the checks will be transmitted, whereas those failing them will not be transmitted.



W021F00

Disable



W061F02

**\*\* Do Not Transmit Check Digit after Verification**



W061F06

**Transmit Check Digit after Verification**

---

## **MSI-Plessey**

### **Restore Factory Defaults**



WFFD9A7

**Restore the Factory Defaults of MSI-Plessey**

### **Enable/Disable MSI-Plessey**



W081F08

**\*\* Enable MSI-Plessey**



W081F00

**Disable MSI-Plessey**

---

---

## Check Digit Verification

Check digits are optional for MSI-Plessey and can be added as the last one or two digits, which are calculated values used to verify the integrity of the data.

If the **Disable** option is enabled, the scanner transmits MSI-Plessey barcodes as is.



Disable



\*\* One Check Digit, MOD10



Two Check Digits, MOD10/MOD10



Two Check Digits, MOD10/MOD11



Do Not Transmit Check Digit



\*\* Transmit Check Digit

---

## RSS-14

### Restore Factory Defaults



Restore the Factory Defaults of RSS-14

### Enable/Disable RSS-14



\*\* Enable RSS-14



Disable RSS-14

### Transmit Application Identifier “01”



\*\* Transmit Application Identifier “01”



Do Not Transmit Application Identifier “01”

---

## RSS-Limited

### Restore Factory Defaults



WFFD9A9

Restore the Factory Defaults of RSS-Limited

### Enable/Disable RSS-Limited



W081B08

\*\* Enable RSS-Limited



W081B00

Disable RSS-Limited

### Transmit Application Identifier “01”



W201B20

\*\* Transmit Application Identifier “01”



W201B00

Do Not Transmit Application Identifier “01”

---

---

## RSS-Expand

### Restore Factory Defaults



Restore the Factory Defaults of RSS-Expand

### Enable/Disable RSS-Expand



\*\* Enable RSS-Expand



Disable RSS-Expand

---

## PDF417

### Restore Factory Defaults



WFFD9B0

Restore the Factory Defaults of PDF417

### Enable/Disable PDF417



W010C01

\*\* Enable PDF417



W010C00

Disable PDF417

### Macro PDF417



W100C10

Enable Macro PDF417



W100C00

\*\* Disable Macro PDF417

---

---

## Data Matrix

### Restore Factory Defaults



WFFD9B1

Restore the Factory Defaults of Data Matrix

### Enable/Disable Data Matrix



W080C08

\*\* Enable Data Matrix



W080C00

Disable Data Matrix

### Enable/Disable Mirrored DM



W0C4A0C

Enable Mirrored DM



W0C4A00

\*\* Disable Mirrored DM

---

## Rectangular Barcodes

Data Matrix has two formats:

Square barcodes having the same amount of modules in length and width: 10\*10, 12\*12.... 144\*144.

Rectangular barcodes having different amounts of models in length and width: 6\*16, 6\*14... 14\*22.



W034B03

**\*\* Decode Rectangular Barcodes**



W034B00

**Do Not Decode Rectangular Barcodes**

---

## QR Code

### Restore Factory Defaults



WFFD9B2

Restore the Factory Defaults of QR Code

### Enable/Disable QR Code



W800D80

\*\* Enable QR Code



W800D00

Disable QR Code

## Micro QR

This parameter is valid only when QR Code is enabled.



W049904

\*\* Enable Micro QR



W049900

Disable Micro QR

## Chapter 13 Prefix & Suffix

### AIM ID Prefix

AIM (Automatic Identification Manufacturers) IDs define symbology identifiers and data carrier identifiers.

For the details, see the **AIM ID Table**. If AIM ID prefix is enabled, the engine will add the symbology identifier before the scanned data after decoding.



WFFD9C1

\*\* Disable AIM ID Prefix



WFFD9C0

Enable AIM ID Prefix

---

### AIM ID Table

Symbology	AIM ID	Remark
Code 128	]C0	Standard Code 128
UCC/EAN 128 (GS1-128)	]C1	FNC1 is the character right after the start character
AIM 128	]C2	FNC1 is the 2nd character after the start character
EAN-8	]E4	Standard EAN-8
	]E4....]E1...	EAN-8 + 2-Digit Add-On Code
	]E4....]E2...	EAN-8 + 5-Digit Add-On Code
EAN-13	]E0	Standard EAN-13
	]E3	EAN-13 + 2/5-Digit Add-On Code
ISSN	]X5	
ISBN	]X4	
UPC-E	]E0	Standard UPC-E
	]E3	UPC-E + 2/5-Digit Add-On Code
UPC-A	]E0	Standard UPC-A
	]E3	UPC-A + 2/5-Digit Add-On Code
Interleaved 2 of 5	]I0	No check digit verification
	]I1	Transmit check digit after verification
	]I3	Do not transmit check digit after verification
ITF-6	]I1	Transmit check digit
	]I3	Do not transmit check digit
ITF-14	]I1	Transmit check digit
	]I3	Do not transmit check digit
Matrix 2 of 5	]X1	No check digit verification
	]X2	Transmit check digit after verification
	]X3	Do not transmit check digit after verification
Industrial 25	]S0	Not specified
Standard 25	]R0	No check digit verification
	]R8	One check digit, MOD 7; do not transmit check digit
	]R9	One check digit, MOD 7; transmit check digit

---

Symbology	AIM ID	Remark
Code 39	]A0	Transmit barcodes as is; Full ASCII disabled; no check digit verification
	]A1	One check digit, MOD 43; transmit check digit
	]A3	One check digit, MOD 43; do not transmit check digit
	]A4	Full ASCII enabled; no check digit verification
	]A5	Full ASCII enabled; MOD43; transmit check digit
	]A7	Full ASCII enabled; MOD43; do not transmit check digit
Codabar	]F0	Standard Codabar
	]F1	ABC Codabar
	]F2	Transmit check digit after verification
	]F4	Do not transmit check digit after verification
Code 93	]G0	Not specified
Code 11	]H0	One check digit, MOD11; transmit check digit
	]H1	Two check digits, MOD11/MOD11; transmit check digit
	]H3	Do not transmit check digit after verification
	]H8	Two check digits, MOD11/MOD9; transmit check digit
	]H9	No check digit verification
Plessey	]P0	Not specified
MSI-Plessey	]M0	One check digit, MOD10; transmit check digit
	]M1	One check digit, MOD10; do not transmit check digit
	]M7	Two check digits, MOD10 /MOD11; do not transmit check digit
	]M8	Two check digits, MOD10 /MOD11; transmit check digit
	]M9	No check digit verification
RSS-14 RSS-Limited RSS-Expand	]e0	Standard
	]e1	User-defined
	]e2	User-defined
	]e3	User-defined
PDF417	]L0	Comply with 1994 PDF417 specifications
Data Matrix	]d0	ECC 000 - 140
	]d1	ECC 200
	]d2	ECC 200; FNC1 is the 1st or 5th character after the start character

Symbology	AIM ID	Remark
	]d3	ECC 200; FNC1 is the 2nd or 6th character after the start character
	]d4	ECC 200, ECI protocol supported
	]d5	ECC 200; FNC1 is the 1st or 5th character after the start character; ECI supported
	]d6	ECC 200; FNC1 is the 2nd or 6th character after the start character; ECI supported
QR Code	]Q0	QR1 (comply with AIM ISS 97-001 specifications)
	]Q1	QR2 (2005 symbol), ECI protocol not supported
	]Q2	QR2 (2005 symbol), ECI protocol supported
	]Q3	QR2 (2005 symbol), ECI protocol not supported; FNC1 is the character right after the start character
	]Q4	QR2 (2005 symbol), ECI protocol supported; FNC1 is the character right after the start character
	]Q5	QR2 (2005 symbol), ECI protocol not supported; FNC1 is the 2nd character right after the start character
	]Q6	QR2 (2005 symbol), ECI protocol supported; FNC1 is the 2nd character right after the start character

---

## CODE ID Prefix

Code ID can also be used to identify barcode type. For the details, see the **CODE ID Table**.



W800200

\*\* Disable CODE ID Prefix



W800280

Enable CODE ID Prefix

You can choose to transmit original CODE ID or visible CODE ID by scanning the appropriate barcode below.



W018A00

\*\* Original CODE ID



W018A01

Visible CODE ID

---

## CODE ID Table

Symbology	Original Code ID	Visible Code ID
Code 128 FNC3	0x01	A(0x41)
Code 128	0x02	B(0x42)
UCC/EAN 128	0x03	C(0x43)
EAN-8	0x04	D(0x44)
EAN-13	0x05	E(0x45)
UPC-E	0x06	F(0x46)
UPC-A	0x07	G(0x47)
Interleaved 2 of 5	0x08	H(0x48)
ITF-14	0x09	I(0x49)
ITF-6	0x0A	J(0x4A)
Code 39	0x0D	M(0x4D)
Codabar	0x0F	O(0x4F)
Standard 25	0x10	P(0x50)
Code 93	0x11	Q(0x51)
AIM 128	0x15	U(0x55)
MSI-Plessey	0x16	V(0x56)
ISBN	0x17	W(0x57)
Industrial 25	0x18	X(0x58)
Matrix 2 of 5	0x19	Y(0x59)
RSS-14	0x1A	Z(0x5A)
RSS-Limited	0x1B	[0x5B)
RSS-Expand	0x1C	\(0x5C)
Code 11	0x1D	]0x5D)
Plessey	0x1E	^0x5E)
ISSN	0x1F	_0x5F)
PDF417	0x20	`0x60)
QR Code	0x21	a(0x61)
Data Matrix	0x23	c(0x63)

---

---

## **Terminating Character Suffix**

A terminating character such as carriage return (CR) or carriage return/line feed pair (CRLF) or horizontal tab (TAB) can be used to mark the end of data.



W616000

**Disable Terminating Character Suffix**



W616001

**Append CR**



W616021

**\*\* Append CRLF**



W616041

**Append TAB**

## Chapter 14 Troubleshooting

Problem	Solution
Does not respond to input.	Disconnect the power adapter and then reconnect it.
Scanned data is not displayed on the host.	Ensure the scanner's communication parameters (such as baud rate, interface) match the host's settings.
Cannot read barcodes.	<ol style="list-style-type: none"><li>1. Follow the scanning instructions in this manual to scan barcode.</li><li>2. Ensure the barcode type is enabled.</li><li>3. Ensure the barcode is not defaced. Wrinkled, soiled or torn barcodes might be unreadable.</li></ol>



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