

User Guide

T1, I1, I3, F1, F3, and H1



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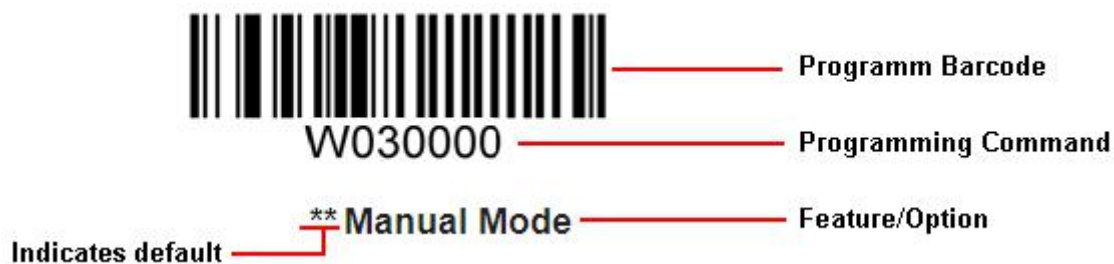
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Chapter 1 Introduction

Barcode Programming

All user programmable features/options are described along with their programming barcodes or commands in the following sections.



Enter/Exit Setup



Programming Barcode Data





Factory Defaults

Scanning the following barcode can restore the engine to the factory defaults. You may need to reset your engine when:

1. engine 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.



WFFD980

**Restore All Factory
Defaults**



Chapter 2 Scan Mode

Manual Mode

Manual Mode (default): A trigger pull activates a decode session. The decode session continues until the barcode is decoded or the trigger is released or the decode session timeout expires.



Decode Session Timeout: This parameter sets the maximum time decode session continues during a scan attempt. It is programmable in 1s increments from 1s to 255s. The default timeout is 15s. If the parameter is set to 0, the decode session timeout is infinite.



Example: Set the decode session timeout to 5s

1. Scan the **Enable Setup** barcode.
2. Scan the **Decode Session Timeout** barcode.
3. Scan the numeric barcode "5". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.

Continuous Mode

Continuous Mode: A trigger press activates the engine to scan and decode at user-specified intervals, i.e. the timeout between decodes. Each decode session lasts until barcode is decoded or the decode session timeout expires. To suspend/resume the operation, simply press the trigger. By default, the engine rereads same barcode with no delay.



Decode Session Timeout: This parameter sets the maximum time decode session continues during a scan attempt. It is programmable in 1s increments from 1s to 255s. The default timeout is 15s. If the parameter is set to 0, the decode session timeout is infinite.



Example: Set the decode session timeout to 5s

1. Scan the **Enable Setup** barcode.
2. Scan the **Decode Session Timeout** barcode.
3. Scan the numeric barcode "5". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.



Timeout between Decodes: This parameter sets the timeout between decode sessions. When a decode session ends, next session will not happen until the timeout between decodes expires. It is programmable in 0.1s increments from 0.0s to 25.5s. The default timeout is 1.0s.



Example: Set the timeout between decodes to 5s

1. Scan the **Enable Setup** barcode.
2. Scan the **Timeout between Decodes** barcode.
3. Scan the numeric barcodes “5” and “0”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.





Reread Delay sets the time period before the engine can read the same barcode a second time. It protects against accidental rereads of the same barcode. This parameter is programmable in 0.1s increments from 0.1s to 25.5s. The default delay is 3.0s. If the parameter is set to 0, the delay is infinite.

Note: This parameter only applies when the **Reread Same Barcode with a Delay** is enabled.



Reread Delay

Reread Same Barcode with No Delay: The engine is allowed to reread same barcode, ignoring the reread delay.

Reread Same Barcode with a Delay: The engine is not allowed to reread same barcode before the reread delay expires.

To disable rereads of same barcode, enable the **Reread Same Barcode with a Delay** and set the delay to 0.



** Reread Same Barcode with No Delay



Reread Same Barcode with a Delay

Example: Set the reread delay to 5s

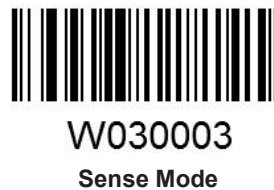
1. Scan the **Enable Setup** barcode.
2. Scan the **Reread Delay** barcode.
3. Scan the numeric barcodes "5" and "0". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.





Sense Mode

Sense Mode: The engine activates a decode session every time when it detects a change in ambient illumination and meets the requirement of the image stabilization timeout. Decode session continues until barcode is decoded or the decode session timeout expires. A trigger pull can also activate a decode session. By default, the engine rereads same barcode with no delay.



Decode Session Timeout: This parameter sets the maximum time decode session continues during a scan attempt. It is programmable in 1s increments from 1s to 255s. The default timeout is 15s. If the parameter is set to 0, the decode session timeout is infinite.



Example: Set the decode session timeout to 5s

1. Scan the **Enable Setup** barcode.
2. Scan the **Decode Session Timeout** barcode.
3. Scan the numeric barcode "5". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.





Image Stabilization Timeout: The engine waits for the image stabilization timeout to expire before activating a decode session every time it detects a change in ambient illumination. This parameter is programmable in 0.1s increments from 0.0s to 25.5s. The default timeout is 0.4s.



Example: Set the Image Stabilization Timeout to 5s

1. Scan the **Enable Setup** barcode.
2. Scan the **Image Stabilization Timeout** barcode.
3. Scan the numeric barcodes “5” and “0”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.





Reread Delay sets the time period before the engine can read the same barcode a second time. It protects against accidental rereads of the same barcode. This parameter is programmable in 0.1s increments from 0.1s to 25.5s. The default delay is 3.0s. If the parameter is set to 0, the delay is infinite.

Note: This parameter only applies when the **Reread Same Barcode with a Delay** is enabled.



Reread Same Barcode with No Delay: The engine is allowed to reread same barcode, ignoring the reread delay.

Reread Same Barcode with a Delay: The engine is not allowed to reread same barcode before the reread delay expires.

To disable rereads of same barcode, enable the **Reread Same Barcode with a Delay** and set the delay to 0.



** Reread Same Barcode with No Delay



Reread Same Barcode with a Delay

Example: Set the reread delay to 5s

1. Scan the **Enable Setup** barcode.
2. Scan the **Reread Delay** barcode.
3. Scan the numeric barcodes "5" and "0". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.





Sensitivity: This parameter specifies the degree of acuteness of the engine's response to changes in ambient illumination. The higher the sensitivity, the lower requirement in illumination change to trigger the engine. You can select an appropriate degree of sensitivity that fits the ambient environment.



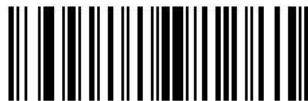
WFF0305

High Sensitivity



WFF0310

** Medium Sensitivity



WFF0330

** Medium Sensitivity



M00031A

Custom Sensitivity

Sensitivity levels range from 0 to 255. The smaller the number, the higher the sensitivity.

Example: Set the sensitivity level to 10

1. Scan the **Enable Setup** barcode.
2. Scan the **Custom Sensitivity** barcode.
3. Scan the numeric barcodes "1" and "0". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.





Command Trigger Mode

Command Trigger Mode: Decode session is activated by a host command. The decode session continues until the barcode is decoded or the decode session timeout expires.



Decode Session Timeout: This parameter sets the maximum time decode session continues during a scan attempt. It is programmable in 1s increments from 1s to 255s. The default timeout is 15s. If the parameter is set to 0, the decode session timeout is infinite.



Example: Set the decode session timeout to 5s

1. Scan the **Enable Setup** barcode.
2. Scan the **Decode Session Timeout** barcode.
3. Scan the numeric barcode "5". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.



Chapter 3 Notification

Good Read Beep



** Good Read Beep On



Good Read Beep Off



Low Frequency



** Medium Frequency



High Frequency



Beep Duration: 40ms



** Beep Duration: 80ms



Beep Duration: 120ms



Decode Result Notification

When enabled, if a barcode does not decode, "F" is transmitted; if a barcode is decoded, "S" is appended to the barcode data as the most left character.



W203120

Enable Decode Result Notification



W203100

** Disable Decode Result Notification



Other Settings

You can change the following parameter settings temporarily and the changes will be lost when you power down or reboot the engine.

Silent Mode



W400000

Silent Mode On



W400040

** Silent Mode Off

Note: This feature is only applicable to decode beep and will be automatically disabled when the engine is powered down or rebooted.

Illumination



W0C0000

Off



W0C0008

Always On



W0C0004

** On When Scanning

Chapter 4 Communication Settings

The engine provides an TTL-232 interface and a USB interface to communicate with the host device. The host device can receive scanned data and send commands to control the engine or to access/alter the configuration information of the engine via the TTL-232 or USB interface.

TTL-232 Interface

Baud Rate

When the engine is connected to a host device through its TTL-232 interface, you need to set communication parameters (including baud rate) to match the host device.

Baud rate is the number of bits of data transmitted per second. Set the engine's baud rate to match the Host requirements.



WFFD9D3

**** 9600**



WFFD9D0

1200



WFFD9D5

19200



WFFD9D1

2400



WFFD9D6

38400



WFFD9D2

4800



WFFD9D7

57600



WFFD9D4

14400



WFFD9D8

115200



W010F00

Exit Setup

Parity Check



W062900

** None



W062906

Even Parity



W062904

Odd Parity

Stop Bit



W012900

** 1 Stop Bit



W012901

2 Stop Bits

Data Bit



W082908

8 Data Bits



W0F2908

** 8 Data Bits, No Parity, 1 Stop Bit



W0F290E

8 Data Bits, Even Parity, 1 Stop Bit



W0F290C

8 Data Bits, Odd Parity, 1 Stop Bit



W0F2909

8 Data Bits, No Parity, 2 Stop Bits



W0F290F

8 Data Bits, Even Parity , 2 Stop Bits



W0F290D

8 Data Bits, Odd Parity, 2 Stop Bits



W082900

7 Data Bits



W0F2906

7 Data Bits, Even Parity, 1 Stop Bit



W0F2904

7 Data Bits, Odd Parity, 1 Stop Bit



W0F2907

7 Data Bits, Even Parity, 2 Stop Bits



W0F2905

7 Data Bits, Odd Parity, 2 Stop Bits



USB Interface

USB HID-KBW

When enabled, the engine's transmission is simulated as USB keyboard input. It works on a Plug and Play basis and no driver is required.



**** USB HID-KBW**

Standard Keyboard



W031A00

** Standard Keyboard

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. Since sending a character involves multiple keystroke emulations, this method appears less efficient.

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



W031A03

Emulate ALT+Keypad

Note: It is recommended to turn on the Num Lock light on the host when using this feature.

ASCII Function Key Mapping Table

ASCII Value (HEX)	Function Key	ASCII Value (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	.

USB Country Keyboard Types

Keyboard layouts vary from country to country. All supported keyboard types are listed below.



WFF1900

** 1 - U.S.



WFF1901

2 - Belgium



WFF1902

3 - Brazil



WFF1903

4 - Canada



WFF1904

5 - Czech



WFF1905

6 - Denmark



WFF1906

7 - Finland



WFF1907

8 - France



WFF1908

9 - Austria



WFF1909

10 - Greece



WFF190A

11 - Hungary



WFF190B

12 - Israel



WFF190C

13 - Italy



WFF190D

14 - Latin America



WFF190E

15 - Netherland



WFF190F

16 - Norway



WFF1910

17 - Poland



WFF1911

18 - Portugal



WFF1912

19 - Romania



WFF1913

20 - Russia



WFF1915

21 - Slovakia



WFF1916

22 - Spain



WFF1917

23 - Sweden



WFF1918

24 - Switzerland



WFF1919

25 - Turkey1



WFF191A

26 - Turkey 2



WFF191B

27 - UK



WFF191C

28 - Japan

Inter-Keystroke Delay

This parameter specifies the delay between emulated keystrokes.



WC01A00

** No Delay



WC01A40

Short Delay (5ms)



WC01A80

Medium Delay (10ms)



WC01AC0

Long Delay (15ms)

Convert Case

This parameter is valid when the **Standard Keyboard** or **Function Key Mapping** is enabled.



W381A00

** No Case Conversion



W381A20

Convert All to Upper Case



W381A30

Convert All to Lower Case



W381A08

Invert Upper and Lower Case Characters

Example: When the **Invert Upper and Lower Case Characters** feature is enabled, barcode data “AbC” is transmitted as “aBc”.



Emulate Numeric Keypad

When this feature is disabled, sending barcode data is emulated as keystroke(s) on main keyboard.

To enable this feature, scan the **Emulate Numeric Keypad** barcode. Sending a number (0-9) is emulated as keystroke on numeric keypad, whereas sending other character like "+", "_", "*", "/", and "." is still emulated as keystroke on main keyboard. However, this feature is influenced by the state of the Num Lock key on the host: if the Num Lock light on the host is ON, numbers are sent over numeric keypad, if it is OFF, numbers are sent over main keyboard.



W041A04

Emulate Numeric Keypad



W041A00

** Do Not Emulate Numeric Keypad

Note: Make sure the Num Lock light of the Host is turned ON when using this feature.

Emulate ALT+Keypad ON prevails over **Emulate Numeric Keypad**.





USB DataPipe

A driver is required when using this protocol to communicate with the engine.



USB DataPipe

USB COM Port Emulation

This feature allows the host to receive data in the way as a serial port does. However, you need to set communication parameters on the engine to match the Host requirements. A driver is required for this feature.



USB COM Port
Emulation





HID-POS

The HID-POS interface is recommended for new application programs. It can send up to 56 characters in a single USB report and appears more efficient than USB HID-KBW.

Features:

- ✧ HID based, no custom driver required.
- ✧ Way more efficient in communication than USB HID-KBW and traditional RS-232 interface.

Note: HID-POS does not require a custom driver. However, a HID interface on Windows 98 does. All HID interfaces employ standard driver provided by the operating system. Use defaults when installing the driver.



Access the Engine with Your Program

1. Use Create File to access the engine as a HID device.
2. Use Read File to deliver the scanned data to the application program.
3. Use Write File to send data to the engine.

For detailed information about USB and HID interfaces。

Acquire Scanned Data

After a barcode is decoded, the engine sends an input report as below:

Byte	Bit							
	7	6	5	4	3	2	1	0
0	Report ID = 02							
1	Barcode Length							
2-57	Decoded Data (1-56)							
58-61	Reserved (1-4)							
62	00							
63	00 (no data continued) or 01 (data continued)							

Chapter 5 Data Formatting

Introduction

After a successful barcode read, a string containing numbers, letters or symbols will be returned.

In real applications, barcode data may be found insufficient for your needs. You may wish to include additional information such as barcode type, data acquisition time or delimiter in data being scanned.

Adding extra information to printed barcodes does not seem like a sensible solution since that will increase the barcode size and make them inflexible. Instead, we come up with the idea of appending prefix and suffix to the data without making any change to barcodes. We will show you how to conduct the configuration in the following sections.

Note: Customized data: <Prefix> <Data><Suffix><Terminating Character>



Prefix Sequence



W013100

** Code ID+Custom+AIM ID



W013101

Custom+Code ID+ AIM ID



Custom Prefix

Enable/Disable Custom Prefix

If custom prefix is enabled, you are allowed to append to the data a user-defined prefix that cannot exceed 5 characters.

For example, if barcode data is “123” and custom prefix is “AB”, the host will receive “AB123”.



W043104

Enable Custom Prefix



W043100

** Disable Custom Prefix

Set Custom Prefix

To set a custom prefix, scan the **Set Custom Prefix** barcode, the numeric barcodes corresponding to the hexadecimal value of a desired prefix and the **Save** barcode.

Note: A custom prefix cannot exceed 5 characters.



M000100

Set Custom Prefix

Example: Set the custom prefix to “CODE” (its hexadecimal value is 0x43/0x4F/0x44/0x45)

1. Scan the **Enable Setup** barcode.
2. Scan the **Set Custom Prefix** barcode.
3. Scan the numeric barcodes “4”, “3”, “4”, “F”, “4”, “4”, “4” and “5”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Enable Custom Prefix** barcode.
6. Scan the **Exit Setup** barcode.



AIM ID Prefix

AIM (Automatic Identification Manufacturers) ID defines symbology identifier (For the details, see the **AIM ID Table** section in Appendix). If AIM ID prefix is enabled, the engine will add the symbology identifier before the scanned data after decoding.



W186018

Enable AIM ID Prefix



W186000

** Disable AIM ID Prefix





CODE ID Prefix

Code ID can also be used to identify barcode type. Unlike AIM ID, Code ID is user programmable. For the information of default Code ID, see the **Code ID Table** section in Appendix.



W023102

Enable CODE ID Prefix



W023100

** Disable CODE ID Prefix

Restore All Default Code IDs



WFFD9C2

Restore All Default Code
IDs

Set Code ID

Code ID can only consist of one or two English letters. To set a Code ID, scan a **Set Code ID** barcode, the numeric barcodes corresponding to the hexadecimal value of a desired ID and the **Save** barcode.

Example: Set the Code ID of Code 128 to “p” (its hexadecimal value is 0x70)

1. Scan the **Enable Setup** barcode.
2. Scan the **Set Code 128 Code ID** barcode. (See the barcode on the following page)
3. Scan the numeric barcodes “7” and “0”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.



W010F00

Exit Setup

Set Code ID Barcodes



M000200

Set Code 128 Code ID



M000201

Set UCC/EAN-128 Code ID



M000202

Set AIM 128 Code ID



M000204

Set EAN-8 Code ID



M000205

Set EAN-13 Code ID



M000206

Set ISSN Code ID



M000207

Set ISBN Code ID



M000208

Set UPC-E Code ID

Set Code ID Barcodes (continued)



M000209

Set UPC-A Code ID



M00020A

Set Interleaved 2 of 5 Code ID



M00020B

Set ITF-6 Code ID



M00020C

Set ITF-14 Code ID



M00020D

Set Deutsche 14 Code ID



M00020E

Set Deutsche 12 Code ID



M00020F

Set Matrix 2 of 5 Code ID



M000210

Set Industrial 25 Code ID

Set Code ID Barcodes (continued)



M000211

Set Standard 25 Code ID



M000212

Set Code 39 Code ID



M000213

Set Codabar Code ID



M000214

Set Code 93 Code ID



M000215

Set Code 11 Code ID



M000216

Set Plessey Code ID



M000217

Set MSI-Plessey Code ID



M000218

Set RSS-14 Code ID



M000219

Set RSS-Limited Code ID



M00021A

Set RSS-Expand Code ID

Custom Suffix

Enable/Disable Custom Suffix

If custom suffix is enabled, you are allowed to append to the data a user-defined suffix that cannot exceed 5 characters.

For example, if barcode data is “123” and custom suffix is “AB”, the host will receive “123AB”.



W083108

Enable Custom Suffix



W083100

** Disable Custom Suffix



Set Custom Suffix

To set a custom suffix, scan the **Set Custom Suffix** barcode, the numeric barcodes corresponding to the hexadecimal value of a desired suffix and the **Save** barcode.

Note: A custom suffix cannot exceed 5 characters.



Example: Set the custom suffix to “CODE” (its hexadecimal value is 0x43/0x4F/0x44/0x45)

1. Scan the **Enable Setup** barcode.
2. Scan the **Set Custom Suffix** barcode.
3. Scan the numeric barcodes “4”, “3”, “4”, “F”, “4”, “4”, “4” and “5”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Enable Custom Suffix** barcode.
6. Scan the **Exit Setup** barcode.



Terminating Character Suffix

A terminating character, such as carriage return (CR) and line feed (LF), can be used to mark the end of data, which means nothing can be added after it.

A terminating character suffix cannot exceed 5 characters.

Enable/Disable Terminating Character Suffix

This parameter determines whether to append predefined terminating character suffix to the data.



W103110

**** Enable Terminating Character Suffix**



W103100

Disable Terminating Character Suffix

Set Terminating Character Suffix

The engine provides a shortcut for setting the terminating character suffix to **0x0D (CR)** or **0x0D,0x0A (CRLF)** or **0x09 (Horizontal Tab)**, and enabling it by scanning the appropriate barcode below.



Terminating Character 0x0D



** Terminating Character 0x0D,0x0A



Terminating Character 0x09



Set Terminating Character Suffix

To set other terminating character suffix, scan the **Set Terminating Character Suffix** barcode, the numeric barcodes corresponding to the hexadecimal value of a desired terminating character, and the **Save** barcode.

Note: A terminating character suffix cannot exceed 5 characters.

Example: Set the terminating character suffix to 0x0A (LF)

1. Scan the **Enable Setup** barcode.
2. Scan the **Set Terminating Character Suffix** barcode.
3. Scan the numeric barcodes "0" and "A". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Enable Terminating Character Suffix** barcode.
6. Scan the **Exit Setup** barcode.

Chapter 6 Symbolologies

Introduction

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

Global Settings

Enable/Disable All Symbolologies

If all symbolologies are disabled, the engine can only identify programming barcodes.



WFFD981

Enable All Symbolologies



WFFD982

Disable All Symbolologies



Code 128

Restore Factory Defaults



WFFD990

Restore the Factory Defaults of Code 128

Enable/Disable Code 128



W016101

** Enable Code 128



W016100

Disable Code 128



Set Length Range for Code 128

The engine can be configured to only decode Code 128 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes Code 128 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Code 128 barcodes with that length are to be decoded.



M000301

Set the Minimum Length



M000300

Set the Maximum Length

Example: Set the engine to decode Code128 barcodes containing between 8 and 12 characters

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode "8". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes "1" and "2".
7. Scan the **Save** barcode.
8. Scan the **Exit Setup** barcode.



UCC/EAN-128

Restore Factory Defaults



WFFD991

Restore the Factory Defaults of UCC/EAN-128

Enable/Disable UCC/EAN-128



W036203

** Enable UCC/EAN-128



W036200

Disable UCC/EAN-128



W036201

Decode as Code 128



Set Length Range for UCC/EAN-128

The engine can be configured to only decode UCC/EAN-128 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes UCC/EAN-128 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only UCC/EAN-128 barcodes with that length are to be decoded.



M000303

Set the Minimum Length



M000302

Set the Maximum Length

Example: Set the engine to decode UCC/EAN-128 barcodes containing between 8 and 12 characters

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode "8". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes "1" and "2".
7. Scan the **Save** barcode.
8. Scan the **Exit Setup** barcode.



AIM 128

Restore Factory Defaults



WFFD992

Restore the Factory
Defaults of AIM 128

Enable/Disable AIM 128



W036302

Enable AIM 128



W036300

** Disable AIM 128



W036301

Decode as Code 128



Set Length Range for AIM 128

The engine can be configured to only decode AIM 128 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes AIM 128 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only AIM 128 barcodes with that length are to be decoded.



M000305

Set the Minimum Length



M000304

Set the Maximum Length

Example: Set the engine to decode AIM128 barcodes containing between 8 and 12 characters

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2”.
7. Scan the **Save** barcode.
8. Scan the **Exit Setup** barcode.

EAN-8

Restore Factory Defaults



WFFD994

Restore the Factory
Defaults of EAN-8

Enable/Disable EAN-8



W016501

** Enable EAN-8



W016500

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.



W046504

** Transmit EAN-8 Check Digit



W046500

Do Not Transmit EAN-8 Check Digit

Add-On Code

An EAN-8 barcode can be augmented with a two-digit or 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.



W106510

Enable 2-Digit Add-On Code



W106500

** Disable 2-Digit Add-On Code



W206520

Enable 5-Digit Add-On Code



W206500

** Disable 5-Digit Add-On Code

Enable 2-Digit Add-On Code/ Enable 5-Digit Add-On Code: The engine decodes a mix of EAN-8 barcodes with and without 2-digit/5-digit add-on codes.

Disable 2-Digit Add-On Code/ Disable 5-Digit Add-On Code: The engine decodes EAN-8 and ignores the add-on code when presented with an EAN-8 plus add-on barcode. It can also decode EAN-8 barcodes without add-on codes.



Add-On Code Required

This parameter is only valid when **Enable 2-Digit Add-On Code** and/or **Enable 5-Digit Add-On Code** is selected.



W086508

EAN-8 Add-On Code Required



W086500

** EAN-8 Add-On Code Not Required

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.

Convert EAN-8 to EAN-13: Add five leading zeros to decoded EAN-8 barcodes to make them compatible in format to EAN-13 barcodes.



WC06540

Enable EAN-8 Zero Extend
Extend



WC06500

** Disable EAN-8 Zero



WC06580

Convert EAN-8 to EAN-
13



EAN-13

Restore Factory Defaults



Enable/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.



Add-On Code

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



W106610

Enable 2-Digit Add-On Code



W106600

** Disable 2-Digit Add-On Code



W206620

Enable 5-Digit Add-On Code



W206600

** Disable 5-Digit Add-On Code

Enable 2-Digit Add-On Code/ Enable 5-Digit Add-On Code: The engine decodes a mix of EAN-13 barcodes with and without 2-digit/5-digit add-on codes.

Disable 2-Digit Add-On Code/ Disable 5-Digit Add-On Code: The engine decodes EAN-13 and ignores the add-on code when presented with an EAN-13 plus add-on barcode. It can also decode EAN-13 barcodes without add-on codes.



Add-On Code Required

This parameter is only valid when **Enable 2-Digit Add-On Code** and/or **Enable 5-Digit Add-On Code** is selected.



W086608

EAN-13 Add-On Code Required



W086600

** EAN-13 Add-On Code Not Required





ISSN

Restore Factory Defaults



WFFD996

Restore the Factory
Defaults of ISSN

Enable/Disable ISSN



W036702

Enable ISSN



W036700

** Disable ISSN



W036701

Decode as EAN-13





ISBN

Restore Factory Defaults



WFFD997

Restore the Factory
Defaults of ISBN

Enable/Disable ISBN



W036802

Enable ISBN



W036800

** Disable ISBN



W036801

Decode as EAN-13



Set ISBN Format



VV086800

** ISBN-13



VV086808

ISBN-10



UPC-E

Restore Factory Defaults



WFFD998

Restore the Factory
Defaults of UPC-E

Enable/Disable UPC-E



W016901

** Enable UPC-E



W016900

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.



W046904

** Transmit UPC-E Check Digit



W046900

Do Not Transmit UPC-E Check Digit



Add-On Code

A UPC-E barcode can be augmented with a two-digit or 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.



W106910

Enable 2-Digit Add-On Code



W106900

** Disable 2-Digit Add-On Code



W206920

Enable 5-Digit Add-On Code



W206900

** Disable 5-Digit Add-On Code

Enable 2-Digit Add-On Code/ Enable 5-Digit Add-On Code: The engine decodes a mix of UPC-E barcodes with and without 2-digit/5-digit add-on codes.

Disable 2-Digit Add-On Code/ Disable 5-Digit Add-On Code: The engine decodes UPC-E and ignores the add-on code when presented with a UPC-E plus add-on barcode. It can also decode UPC-E barcodes without add-on codes.

Add-On Code Required

This parameter is only valid when **Enable 2-Digit Add-On Code** and/or **Enable 5-Digit Add-On Code** is selected.



W086908

UPC-E Add-On Code Required



W086900

** UPC-E Add-On Code Not Required

Transmit System Character

The first character of UPC-E barcode is the system character.



W306A10

Do Not Transmit System Character



W306A20

** Transmit System Character



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.

Convert UPC-E to UPC-A: Extend UPC-E barcodes to make them compatible in format to UPC-A.



WC06940

Enable UPC-E Extend



WC06900

**Disable UPC-E Extend



WC06980

Convert UPC-E to UPC-A





UPC-A

Restore Factory Defaults



WFFD999

Restore the Factory
Defaults of UPC-A

Enable/Disable UPC-A



W036B02

** Enable UPC-A



W036B00

Disable UPC-A



W036B01

Decode as EAN-13



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.



W086B08

** Transmit UPC-A Check Digit



W086B00

Do Not Transmit UPC-A Check Digit

Transmit Preamble Character

Preamble characters (Country Code and System Character) can be transmitted as part of a UPC-A barcode. Select one of the following options for transmitting UPC-A preamble to the host device: transmit system character only, transmit system character and country code ("0" for USA), or transmit no preamble.



W036A00

No Preamble



W036A01

** System Character



W036A02

System Character &
Country Code

Add-On Code

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



W206B20

Enable 2-Digit Add-On Code



W206B00

** Disable 2-Digit Add-On Code



W406B40

Enable 5-Digit Add-On Code



W406B00

** Disable 5-Digit Add-On Code

Enable 2-Digit Add-On Code/ Enable 5-Digit Add-On Code: The engine decodes a mix of UPC-A barcodes with and without 2-digit/5-digit add-on codes.

Disable 2-Digit Add-On Code/ Disable 5-Digit Add-On Code: The engine decodes UPC-A and ignores the add-on code when presented with a UPC-A plus add-on barcode. It can also decode UPC-A barcodes without add-on codes.

Add-On Code Required

This parameter is only valid when **Enable 2-Digit Add-On Code** and/or **Enable 5-Digit Add-On Code** is selected.



W106B10

UPC-A Add-On Code Required



W106B00

** UPC-A Add-On Code Not Required



Interleaved 2 of 5

Restore Factory Defaults



WFFD99A

Restore the Factory Defaults of Interleaved 2 of 5

Enable/Disable Interleaved 2 of 5



W016C01

** Enable Interleaved 2 of 5



W016C00

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 engine transmits Interleaved 2 of 5 barcodes as is.

Do Not Transmit Check Digit After Verification: The engine 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 engine 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.



**** Do Not Transmit Check Digit After Verification**



Transmit Check Digit After

Set Length Range for Interleaved 2 of 5

The engine can be configured to only decode Interleaved 2 of 5 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes Interleaved 2 of 5 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Interleaved 2 of 5 barcodes with that length are to be decoded.



M000307

Set the Minimum Length



M000306

Set the Maximum Length

Example: Set the engine to decode Interleaved 2 of 5 barcodes containing between 8 and 12 characters

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2”.
7. Scan the **Save** barcode.
8. Scan the **Exit Setup** barcode.

ITF-6

ITF-6 is a special kind of Interleaved 2 of 5 with a length of 6 characters and the last character as the check character.

Restore Factory Defaults



WFFD99B

Restore the Factory
Defaults of ITF-6

Enable/Disable ITF-6

By default, ITF-6 is decoded as
Interleaved 2 of 5.



W036D01

Disable ITF-6



W0B6D02

Enable ITF-6 But Do Not Transmit Check
Digit



W0B6D0A

Enable ITF-6 and Transmit Check

Note: It is advised not to enable ITF-6 and Interleaved 2 of 5 at the same time.

ITF-14

ITF-14 is a special kind of Interleaved 2 of 5 with a length of 14 characters and the last character as the check character.

Restore Factory Defaults



Enable/Disable ITF-14

By default, ITF-14 is decoded as Interleaved 2 of 5.



Enable ITF-14 But Do Not Transmit Check Digit



Enable ITF-14 and Transmit

Note: It is advised not to enable ITF-14 and Interleaved 2 of 5 at the same time.



Deutsche 14

Restore Factory Defaults



Restore the Factory Defaults of Deutsche 14

Enable/Disable Deutsche 14

By default, Deutsche 14 is decoded as Interleaved 2 of 5.



Disable Deutsche 14



Enable Deutsche 14 But Do Not Transmit Check Digit
Check Digit



Enable Deutsche 14 and Transmit

Note: It is advised not to enable Deutsche 14 unless necessary, because Deutsche 14, ITF-14 and Interleaved 2 of 5 use the same encoding method and enabling them at the same time can easily cause confusion with each other when decoding.



Deutsche 12

Restore Factory Defaults



WFFD99E

Restore the Factory Defaults of Deutsche 12

Enable/Disable Deutsche 12

By default, Deutsche 12 is decoded as Interleaved 2 of 5.



W037001

Disable Deutsche 12



W0B7002

Enable Deutsche 12 But Do Not Transmit Check Digit
Check Digit



W0B700A

Enable Deutsche 12 and Transmit

Note: It is advised not to enable Deutsche 12 unless necessary, because Deutsche 12, ITF-12 and Interleaved 2 of 5 use the same encoding method and enabling them at the same time can easily cause confusion with each other when decoding.



Matrix 2 of 5 (European Matrix 2 of 5)

Restore Factory Defaults



Restore the Factory Defaults of Matrix 2 of 5

Enable/Disable Matrix 2 of 5



** Enable Matrix 2 of 5



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 engine transmits Matrix 2 of 5 barcodes as is.

Do Not Transmit Check Digit After Verification: The engine 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 engine 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.



Do Not Transmit Check Digit After Verification



Transmit Check Digit After

Set Length Range for Matrix 2 of 5

The engine can be configured to only decode Matrix 2 of 5 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes Matrix 2 of 5 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Matrix 2 of 5 barcodes with that length are to be decoded.



M000309

Set the Minimum Length



M000308

Set the Maximum Length

Example: Set the engine to decode Matrix 2 of 5 barcodes containing between 8 and 12 characters

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode "8". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes "1" and "2".
7. Scan the **Save** barcode.
8. Scan the **Exit Setup** barcode.



Industrial 25

Restore Factory Defaults



Restore the Factory Defaults of Industrial 25

Enable/Disable Industrial 25



** Enable Industrial 25



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 engine transmits Industrial 25 barcodes as is.

Do Not Transmit Check Digit After Verification: The engine 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 engine 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.



Do Not Transmit Check Digit After Verification



Transmit Check Digit After

Set Length Range for Industrial 25

The engine can be configured to only decode Industrial 25 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes Industrial 25 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Industrial 25 barcodes with that length are to be decoded.



M00030B

Set the Minimum Length



M00030A

Set the Maximum Length

Example: Set the engine to decode Industrial 25 barcodes containing between 8 and 12 characters

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode "8". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes "1" and "2".
7. Scan the **Save** barcode.
8. Scan the **Exit Setup** barcode.



Standard 25

Restore Factory Defaults



WFFD9A1

Restore the Factory Defaults of Standard 25

Enable/Disable Standard 25



W017301

** Enable Standard 25



W017300

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 engine transmits Standard 25 barcodes as is.

Do Not Transmit Check Digit After Verification: The engine 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 engine 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.



Do Not Transmit Check Digit After Verification



Transmit Check Digit After

Set Length Range for Standard 25

The engine can be configured to only decode Standard 25 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes Standard 25 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Standard 25 barcodes with that length are to be decoded.



M00030D

Set the Minimum Length



M00030C

Set the Maximum Length

Example: Set the engine to decode Standard 25 barcodes containing between 8 and 12 characters

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode "8". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes "1" and "2".
7. Scan the **Save** barcode.
8. Scan the **Exit Setup** barcode.



Code 39

Restore Factory Defaults



Enable/Disable Code 39



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 engine transmits Code 39 barcodes as is.

Do Not Transmit Check Digit After Verification: The engine 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 engine 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.



Do Not Transmit Check Digit After Verification



Transmit Check Digit After

Transmit Start/Stop Characters

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.



W047404

Transmit Start/Stop Characters



W047400

**** Do Not Transmit Start/Stop Characters**

Enable/Disable Code 39 Full ASCII

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



W207420

**** Enable Code 39 Full ASCII**



W207400

Disable Code 39 Full ASCII

Set Length Range for Code 39

The engine can be configured to only decode Code 39 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes Code 39 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Code 39 barcodes with that length are to be decoded.



M00030F

Set the Minimum Length



M00030E

Set the Maximum Length

Example: Set the engine to decode Code 39 barcodes containing between 8 and 12 characters.

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode "8". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcode "1".
7. Scan the numeric barcode "2".
8. Scan the **Save** barcode.
9. Scan the **Exit Setup** barcode.



Codabar

Restore Factory Defaults



Enable/Disable Codabar



Check Digit Verification

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

Disable: The engine transmits Codabar barcodes as is.

Do Not Transmit Check Digit After Verification: The engine checks the integrity of all Codabar 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 engine checks the integrity of all Codabar 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.



Do Not Transmit Check Digit After Verification



Transmit Check Digit After

Start/Stop Characters



W047504

**** Transmit Start/Stop Characters**



W047500

Do Not Transmit Start/Stop Characters



W187500

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



W187508

ABCD/TN*E as the Start/Stop Character



W187510

abcd/abcd as the Start/Stop Character



W187518

abcd/tn*e as the Start/Stop Character

Set Length Range for Codabar

The engine can be configured to only decode Codabar barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes Codabar barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Codabar barcodes with that length are to be decoded.



M000311

Set the Minimum Length



M000310

Set the Maximum Length

Example: Set the engine to decode Codabar barcodes containing between 8 and 12 characters.

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcode “1”.
7. Scan the numeric barcode “2”.
8. Scan the **Save** barcode.
9. Scan the **Exit Setup** barcode.



Code 93

Restore Factory Defaults



Enable/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 engine transmits Code 93 barcodes as is.

Do Not Transmit Check Digit After Verification: The engine 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 engine 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.



**** Do Not Transmit Check Digit After Verification**



Transmit Check Digit After

Set Length Range for Code 93

The engine can be configured to only decode Code 93 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes Code 93 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Code 93 barcodes with that length are to be decoded.



M000313

Set the Minimum Length



M000312

Set the Maximum Length

Example: Set the engine to decode Code 93 barcodes containing between 8 and 12 characters.

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcode “1”.
7. Scan the numeric barcode “2”.
8. Scan the **Save** barcode.
9. Scan the **Exit Setup** barcode.



Code 11

Restore Factory Defaults



Enable/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 engine transmits Code 11 barcodes as is.



W1C7700

Disable



W1C7704

** One Check Digit, MOD11



W1C7708

Two Check Digits, MOD11/MOD11



W1C770C

Two Check Digits, MOD11/MOD9



W1C7710

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



W1C7714

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



W207720

Transmit Check Digit



W207700

** Do Not Transmit Check Digit

Set Length Range for Code 11

The engine can be configured to only decode Code 11 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes Code 11 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Code 11 barcodes with that length are to be decoded.



M000315

Set the Minimum Length



M000314

Set the Maximum Length

Example: Set the engine to decode Code 11 barcodes containing between 8 and 12 characters.

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode "8". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcode "1".
7. Scan the numeric barcode "2".
8. Scan the **Save** barcode.
9. Scan the **Exit Setup** barcode.



Plessey

Restore Factory Defaults



Enable/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 engine transmits Plessey barcodes as is.

Do Not Transmit Check Digit After Verification: The engine 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 engine 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.



**** Do Not Transmit Check Digit After Verification**



Transmit Check Digit After

Set Length Range for Plessey

The engine can be configured to only decode Plessey barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes Plessey barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Plessey barcodes with that length are to be decoded.



M000317

Set the Minimum Length



M000316

Set the Maximum Length

Example: Set the engine to decode Plessey barcodes containing between 8 and 12 characters.

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode "8". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcode "1".
7. Scan the numeric barcode "2".
8. Scan the **Save** barcode.
9. Scan the **Exit Setup** barcode.



MSI-Plessey

Restore Factory Defaults



WFFD9A7

Restore the Factory Defaults of MSI-Plessey

Enable/Disable MSI-Plessey



W017901

Enable MSI-Plessey



W017900

** 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 engine transmits MSI-Plessey barcodes as is.



W0C7900

Disable



W0C7904

** One Check Digit, MOD10



W0C7908

Two Check Digits, MOD10/MOD10



W0C790C

Two Check Digits, MOD10/MOD11



W107910

Transmit Check Digit



W107900

** Do Not Transmit Check Digit

Set Length Range for MSI-Plessey

The engine can be configured to only decode MSI-Plessey barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the engine only decodes MSI-Plessey barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only MSI-Plessey barcodes with that length are to be decoded.



M000319

Set the Minimum Length



M000318

Set the Maximum Length

Example: Set the engine to decode MSI-Plessey barcodes containing between 8 and 12 characters.

1. Scan the **Enable Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcode “1”.
7. Scan the numeric barcode “2”.
8. Scan the **Save** barcode.
9. Scan the **Exit Setup** barcode.



RSS-14

Restore Factory Defaults



Enable/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



W017B01

** Enable RSS-Limited



W017B00

Disable RSS-Limited

Transmit Application Identifier "01"



W047B04

** Transmit Application Identifier "01"



W047B00

Do Not Transmit Application Identifier "01"



RSS-Expand

Restore Factory Defaults



WFFD9AA

Restore the Factory Defaults of RSS-Expand

Enable/Disable RSS-Expand



W017C01

** Enable RSS-Expand



W017C00

Disable RSS-Expand

Appendix

Factory Defaults Table

Paramete		Factory Default	Remar
System Settings			
Barcode Programming		Enabled	
Programming Barcode Data		Do not send	
Scan Mode		Manual Mode	
Manual Mode	Decode Session Timeout	15s	1-255s; 0: infinite.
Continuous Mode	Decode Session Timeout	15s	1-255s; 0: infinite.
	Timeout between Decodes	1.0s	0.0-25.5s
	Reread Same Barcode	With no delay	To disable rereads of same barcode, enable the Reread Same Barcode with a Delay and set the delay to 0.
Sense Mode	Decode Session Timeout	15s	1-255s; 0: infinite.
	Image Stabilization Timeout	0.4s	0.0-25.5s
	Reread Same Barcode	With no delay	To disable rereads of same barcode, enable the Reread Same Barcode with a Delay and set the delay to 0.
	Sensitivity	Medium	
Command Trigger Mode	Decode Session Timeout	15s	1-255s; 0: infinite.
Security Level		0	
Good Read Beep		Enabled	
Good Read Beep Frequency		Medium	
Good Read Beep Duration		80ms	
Decode Result Notification		Disabled	
Silent Mode		Disabled	Temporary setting
Illumination		On When Scanning	Temporary setting

Parameter		Factory Default	Remark
Communication Interfaces			
TTL-232 Interface	Baud Rate	9600	
	Parity Check	None	
	Number of Data Bits	8	
	Number of Stop Bits	1	
	Flow Control	None	
USB Interface		USB HID-KBW	Other options: DataPipe, USB COM Port Emulation, HID-POS
USB HID-KBW	Input Mode	Standard Keyboard	
	USB Country Keyboard Type	U.S.	
	Inter-Keystroke Delay	No Delay	
	Convert Case	No Conversion	
	Emulate Numeric Keypad	Disabled	
Data Formatting			
Prefix Sequence		Code ID+Custom+AIM ID	
AIM ID Prefix		Disabled	
Code ID Prefix		Disabled	1 or 2 English letters
Custom Prefix		Disabled	1 to 5 characters
Custom Suffix		Disabled	1 to 5 characters
Terminating Character Suffix		Enabled, 0x0D,0x0A	0x0D,0x0A: CRLF

Parameter	Factory Default	Remark
Code 128		
Code 128	Enabled	
Minimum Length	1	No less than 1 (including check digit)
Maximum Length	80	
UCC/EAN-128 (GS1-128)		
UCC/EAN-128	Enabled	
Minimum Length	1	No less than 1 (including check digit)
Maximum Length	80	
AIM 128		
AIM 128	Disabled	
Minimum Length	1	No less than 1 (including check digit)
Maximum Length	80	
EAN-8		
EAN-8	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
Extend to EAN-13	Disabled	
EAN-13		
EAN-13	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
ISSN		
ISSN	Disabled	
ISBN		
ISBN	Disabled	
ISBN Format	ISBN-13	

Parameter	Factory Default	Remark
UPC-E		
UPC-E	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
Extend to UPC-A	Disabled	
System Character	Transmit	
UPC-A		
UPC-A	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
Transmit Preamble Character	System character	
Interleaved 2 of 5		
Interleaved 2 of 5	Enabled	
Check Digit Verification	Enabled	
Check Digit	Do not transmit	
Minimum Length	6	No less than 3 (including check digit)
Maximum Length	100	
ITF-6		
ITF-6	Decode as I25	
Check Digit	Transmit	
ITF-14		
ITF-14	Decode as I25	
Check Digit	Transmit	
Deutsche 14		
Deutsche 14	Decode as I25	
Check Digit	Transmit	
Deutsche 12		
Deutsche 12	Decode as I25	
Check Digit	Transmit	

Parameter	Factory Default	Remark
Matrix 2 of 5		
Matrix 2 of 5	Enabled	
Check Digit Verification	Disabled	
Check Digit	Do not transmit	
Minimum Length	6	No less than 2 (including check digit)
Maximum Length	80	
Industrial 25		
Industrial 25	Enabled	
Check Digit Verification	Disabled	
Check Digit	Do not transmit	
Minimum Length	6	No less than 2 (including check digit)
Maximum Length	80	
Standard 25		
Standard 25	Enabled	
Check Digit Verification	Disabled	
Check Digit	Do not transmit	
Minimum Length	6	No less than 2 (including check digit)
Maximum Length	80	
Code 39		
Code 39	Enabled	
Check Digit Verification	Disabled	
Check Digit	Do not transmit	
Start/Stop Characters	Do not transmit	
Code 39 Full ASCII	Enabled	
Minimum Length	4	No less than 2 (including check digit)
Maximum Length	50	

Parameter	Factory Default	Remark
Codabar		
Codabar	Enabled	
Check Digit Verification	Disabled	
Check Digit	Do not transmit	
Start/Stop Characters	Transmit	
Start/Stop Character Format	ABCD/ABCD	
Minimum Length	4	No less than 1 (including check digit)
Maximum Length	60	
Code 93		
Code 93	Enabled	
Check Digit Verification	Enabled	
Check Digit	Do not transmit	
Minimum Length	2	No less than 1 (including check digit)
Maximum Length	80	
Code 11		
Code 11	Disabled	
Check Digit Verification	One check digit, MOD11	
Check Digit	Do not transmit	
Minimum Length	4	No less than 2 (including check digit)
Maximum Length	80	
Plessey		
Plessey	Disabled	
Check Digit Verification	Enabled	
Check Digit	Do not transmit	
Minimum Length	4	No less than 3 (including check digit)
Maximum Length	60	

Parameter	Factory Default	Remark
MSI-Plessey		
MSI-Plessey	Disabled	
Check Digit Verification	One check digit, MOD10	
Check Digit	Do not transmit	
Minimum Length	4	No less than 2 (including check digit)
Maximum Length	60	
RSS-14		
RSS-14	Enabled	
AI (Application Identifier)	Transmit	
RSS-Limited		
RSS-Limited	Enabled	
AI (Application Identifier)	Transmit	
RSS-Expand		
RSS-Expand	Enabled	

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
Deutsche 14 Deutsche 12	]X0	
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

Symbolo	AIM ID	R
	JR9	One check digit, MOD 7; transmit check digit
Code 39	JA0	Transmit barcodes as is; Full ASCII disabled; no check digit verification
	JA1	One check digit, MOD 43; transmit check digit
	JA3	One check digit, MOD 43; do not transmit check
	JA4	Full ASCII enabled; no check digit verification
	JA5	Full ASCII enabled; MOD43; transmit check digit
	JA7	Full ASCII enabled; MOD43; do not transmit check
Codabar	JF0	Standard Codabar
	JF1	ABC Codabar
	JF2	Transmit check digit after verification
	JF4	Do not transmit check digit after verification
Code 93	JG0	Not specified
Code 11	JH0	One check digit, MOD11; transmit check digit
	JH1	Two check digits, MOD11/MOD11; transmit check
	JH3	Do not transmit check digit after verification
	JH8	Two check digits, MOD11/MOD9; transmit check
	JH9	No check digit verification
Plessey	JP0	Not specified
MSI Plessey	JM0	One check digit, MOD10; transmit check digit
	JM1	One check digit, MOD10; do not transmit check
	JM7	Two check digits, MOD10 /MOD11; do not transmit check
	JM8	Two check digits, MOD10 /MOD11; transmit check
	JM9	No check digit verification
RSS-14/RSS- Limited RSS- Expand	Je0	Standard
	Je1	User-defined
	Je2	User-defined
	Je3	User-defined

Reference: ISO/IEC 15424:2008 Information technology – Automatic identification and data capture techniques – Data Carrier Identifiers (including Symbology Identifiers)

Code ID Table

Symbology	Code ID
Code 128	j
UCC/EAN-128	u
AIM 128	f
SETTING 128	t
EAN-8	g
EAN-13	d
ISSN	n
ISBN	B
UPC-E	h
UPC-A	c
Interleaved 2 of 5	e
ITF-6	r
ITF-14	q
Deutsche 14	w
Deutsche 12	l
Matrix 2 of 5(European Matrix 2 of 5)	v
Industrial 25	i
Standard 25	s
Code 39	b
Codabar	a
Code 93	y
Code 11	z
Plessey	p
MSI-Plessey	m
RSS-14	D
RSS-Limited	C
RSS-Expand	R

ASCII Table

Hex	Dec	Char
00	0	NUL (Null char.)
01	1	SOH (Start of Header)
02	2	STX (Start of Text)
03	3	ETX (End of Text)
04	4	EOT (End of Transmission)
05	5	ENQ (Enquiry)
06	6	ACK (Acknowledgment)
07	7	BEL (Bell)
08	8	BS (Backspace)
09	9	HT (Horizontal Tab)
0a	10	LF (Line Feed)
0b	11	VT (Vertical Tab)
0c	12	FF (Form Feed)
0d	13	CR (Carriage Return)
0e	14	SO (Shift Out)
0f	15	SI (Shift In)
10	16	DLE (Data Link Escape)
11	17	DC1 (XON) (Device Control 1)
12	18	DC2 (Device Control 2)
13	19	DC3 (XOFF) (Device Control 3)
14	20	DC4 (Device Control 4)
15	21	NAK (Negative Acknowledgment)
16	22	SYN (Synchronous Idle)
17	23	ETB (End of Trans. Block)
18	24	CAN (Cancel)
19	25	EM (End of Medium)
1a	26	SUB (Substitute)
1b	27	ESC (Escape)
1c	28	FS (File Separator)
1d	29	GS (Group Separator)

H	D	C
1e	30	RS (Request to Send)
1f	31	US (Unit Separator)
20	32	SP (Space)
21	33	! (Exclamation Mark)
22	34	" (Double Quote)
23	35	# (Number Sign)
24	36	\$ (Dollar Sign)
25	37	% (Percent)
26	38	& (Ampersand)
27	39	` (Single Quote)
28	40	((Right / Closing Parenthesis)
29	41	) (Right / Closing Parenthesis)
2a	42	* (Asterisk)
2b	43	+ (Plus)
2c	44	, (Comma)
2d	45	- (Minus / Dash)
2e	46	. (Dot)
2f	47	/ (Forward Slash)
30	48	0
31	49	1
32	50	2
33	51	3
34	52	4
35	53	5
36	54	6
37	55	7
38	56	8
39	57	9
3a	58	: (Colon)
3b	59	; (Semi-colon)
3c	60	< (Less Than)
3d	61	= (Equal Sign)



Hex	Dec	Char
3e	62	> (Greater Than)
3f	63	? (Question Mark)
40	64	@ (AT Symbol)
41	65	A
42	66	B
43	67	C
44	68	D
45	69	E
46	70	F
47	71	G
48	72	H
49	73	I
4a	74	J
4b	75	K
4c	76	L
4d	77	M
4e	78	N
4f	79	O
50	80	P
51	81	Q
52	82	R
53	83	S
54	84	T
55	85	U
56	86	V
57	87	W
58	88	X
59	89	Y
5a	90	Z
5b	91	[(Left / Opening Bracket)
5c	92	\ (Back Slash)
5d	93	] (Right / Closing Bracket)



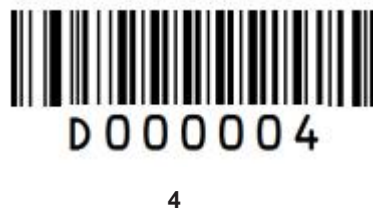
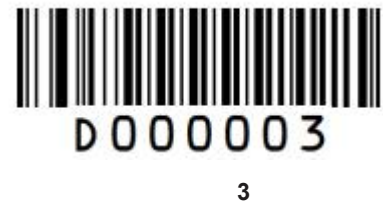
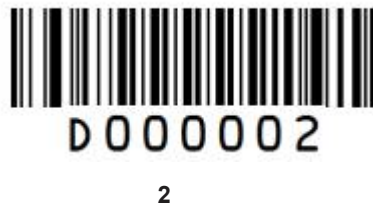
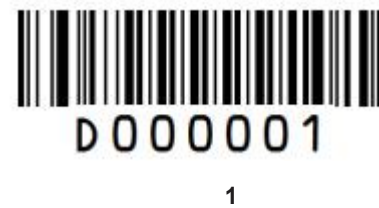
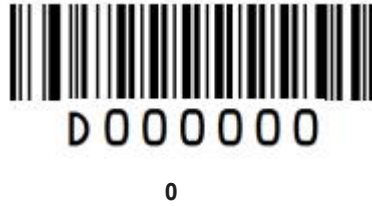


Hex	Dec	Char
5e	94	^ (Caret / Circumflex)
5f	95	_ (Underscore)
60	96	' (Grave Accent)
61	97	A
62	98	B
63	99	C
64	100	d
65	101	e
66	102	f
67	103	g
68	104	h
69	105	i
6a	106	j
6b	107	k
6c	108	l
6d	109	m
6e	110	n
6f	111	o
70	112	p
71	113	q
72	114	r
73	115	s
74	116	t
75	117	u
76	118	v
77	119	w
78	120	x
79	121	y
7a	122	z
7b	123	{ (Left/ Opening Brace)
7c	124	| (Vertical Bar)
7d	125	} (Right/Closing Brace)
7e	126	~ (Tilde)
7f	127	DEL (Delete)



Digit Barcodes

0 ~ 5



6~ 9



6



7

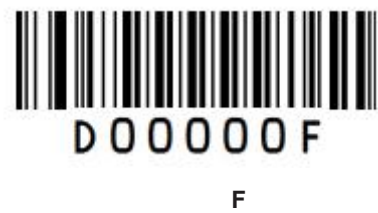
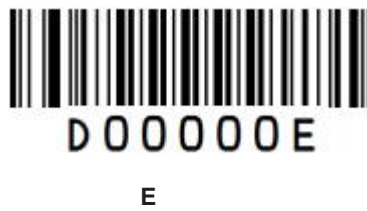
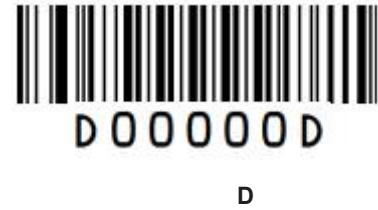
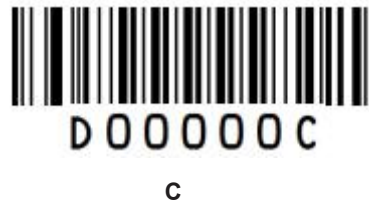
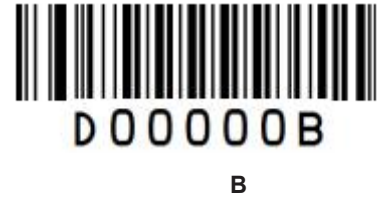


8



9

A ~ 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.



F1~F12

When the USB HID-KBW feature is enabled, scanning one of the following barcodes will send the corresponding function key.

F1~F6



F000000

F1



F000001

F2



F000002

F3



F000003

F4



F000004

F5



F000005

F6

F7~F12



F000006

F7



F000007

F8



F000008

F9



F000009

F10



F00000A

F11



F00000B

F12

The End