



FM100

1D CCD Fixed Scan Engine

Integration Guide

Revisions

Version	Description	Date
Pre-release	Initial release	2011-11-03



© 1999-2011 by Fujian Newland Auto-ID Tech. Co., Ltd. All rights reserved.

No part of this publication may be reproduced, transmitted, or used in any form or by any means, electrical or mechanical, without prior written permission from Newland Auto-ID. The material in this manual is subject to change without notice.

All software, including firmware, is provided strictly on an “as is” basis and is provided without further warranty. Newland Auto-ID grants to the user a non-transferable and non-exclusive license to use each software or firmware program delivered hereunder (licensed program). Except as noted below, such license may not be assigned, sublicensed, or otherwise transferred by the user without prior written consent of Newland Auto-ID. No right to copy a licensed program in whole or in part is granted except as permitted under copyright law or as hereinafter expressly provided. The user agrees to maintain Newland Auto-ID’s copyright notice on the licensed programs delivered hereunder, and to include the same on any authorized copies it makes in whole or in part. The user agrees not to decompile, disassemble, decode, or reverse engineer any licensed program or product delivered to the user or any portion thereof.

Newland Auto-ID reserves the right to make changes and improvements to any software or product for reliability, function, or design.

Newland Auto-ID does not assume any responsibility or liability arising out of, or in connection with, the application or use of any product, circuit, or application described herein.

No license is granted, either expressly or implicitly, estoppels, or otherwise under any Newland Auto-ID intellectual property rights. An implied license only exists for equipment, circuits, and subsystems contained in Newland Auto-ID products.

Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation. All other product or service names are the property of their respective owners.

Fujian Newland Auto-ID Tech. Co., Ltd,



Content

About this guide

Introduction 1
 Graphic Notations 1
 Newland Auto-ID Support Center 2

Getting to Start

Introduction..... 3
 Unpacking 4
 Unpacking 4
 Outline of FM100 4
 Data Interface 5
 Communication Ports 6
 Connecting with USB Cable 7
 Connecting with RS232 Cable 8
 Decode Zones 9
 Specifications 10
 Dimensions of FM100 Unit 11

General Programming

Introduction..... 12
 Code Programming 12
 Command Programming 12
 Programming Notation 13
 Code Programming 14
 Command Programming 15
 Default 17
 Factory Default 17
 Working Mode 18
 Reading Mode 19
 Auto Mode 19
 Interval Mode 20
 Sensor Mode 21
 Continuous Mode 22
 Delayed Sensor Mode 23
 Command Triggered Mode 24
 Security Level 25
 Beeper 26
 Others 27
 Start/Stop Temporary Mute 27

Query Command

Introduction..... 28





Communication Programming

Introduction..... 29

Serial Port Programming 30

 Baud Rate..... 30

 Check 31

 Stop Bit..... 32

 Flow Control..... 33

 Data Bit..... 34

USB Programming..... 36

 USB HID-KBW..... 36

USB HID-KBW 37

 Keyboard Layout..... 37

 Character Delay 37

 Character Conversion 37

 Nums Lock..... 37

Data Format

Introduction..... 38

Prefix Sequences..... 39

User Prefix 40

 Disable or Enable User Prefix 40

 Program User Prefix 40

AIM Prefix 41

Code ID Prefix 42

User Suffix 43

 Disable or Enable User Suffix 43

 Program User Suffix 43

Terminal 44

 Disable or Enable Terminal 44

 Program Terminal 44

Symbols

Introduction..... 45

Code 128 46

 Load Factory Default..... 46

 Enable/Disable Code 128 46

 Code 128 Code ID 46

 Select Message Length 47

UCC/EAN-128..... 48

 Load Factory Default..... 48

 Enable/Disable UCC/EAN-128 48

 UCC/EAN-128 Code ID..... 48

 Select Message Length 49

AIM 128..... 50

 Load Factory Default..... 50

 Enable/Disable AIM 128 50





AIM 128 Code ID	50
Select Message Length	51
EAN-8	52
Load Factory Default	52
Enable/Disable EAN-8	52
EAN-8 Code ID	52
2 Digits Addenda Code	53
5 Digits Addenda Code	53
EAN-8 expand to EAN-13	54
Check Digit	54
EAN-13	55
Load Factory Default	55
Disable/Enable EAN-13	55
Check Digit	56
EAN-13 Code ID	56
2 Digits Addenda Code	57
5 Digits Addenda Code	57
ISSN	58
Load Factory Default	58
Enable/Disable ISSN	58
ISSN Code ID	58
ISBN	59
Load Factory Default	59
Enable/Disable ISBN	59
ISBN Digits	60
ISBN Code ID	60
UPC-E	61
Load Factory Default	61
Disable/Enable UPC-E	61
Check Digit	62
UPC-E Code ID	62
2 Digits Addenda Code	63
5 Digits Addenda Code	63
Transmit Default "0"	64
UPC-E Expand to UPC-A	64
UPC-A	65
Load Factory Default	65
Disable/Enable UPC-A	65
UPC-A Code ID	65
Check Digit	66
Transmit Default "0"	66
2 Digits Addenda Code	67
5 Digits Addenda Code	67
Interleaved 2 of 5	68
Load Factory Default	68
Disable/Enable Interleaved 2 of 5	68
Interleaved 2 of 5 Code ID	68
Check Digit	69
Select Message Length	70





ITF-6	71
ITF-6 Code ID	71
ITF-14	72
ITF-14 Code ID	72
Deutsche14	73
Load Factory Default	73
Disable/Enable Deutsche14	73
Deutsche14 Code ID	73
Deutsche12	74
Load Factory Default	74
Disable/Enable Deutsche12	74
Deutsche12 Code ID	74
COOP25 (Japanese Matrix 2 of 5)	75
Load Factory Default	75
Enable/ Disable COOP25	75
COOP25 (Japanese Matrix 2 of 5) Code ID	75
Check Digit	76
Select Message Length	77
Matrix 2 of 5(European Matrix 2 of 5)	78
Load Factory Default	78
Enable/ Disable Matrix 2 of 5	78
Matrix 2 of 5 Code ID	78
Check Digit	79
Select Message Length	80
Industrial 25	81
Load Factory Default	81
Enable/ Disable Industrial 25	81
Industrial 25 Code ID	81
Check Digit	82
Select Message Length	83
Standard 25	84
Load Factory Default	84
Enable/ Disable Standard 25	84
Standard 25 Code ID	84
Check Digit	85
Select Message Length	86
Code 39	87
Load Factory Default	87
Enable/Disable Code 39	87
Code 39 Code ID	87
Check Digit	88
Transmit Start & Stop Character	89
Decode ASCII	89
Select Message Length	90
Codabar	91
Load Factory Default	91
Enable/Disable Codabar	91
Codabar Code ID	91
Check Digit	92





Transmit Start & Stop Character.....	93
Select Message Length	94
Code 93.....	95
Load Factory Default.....	95
Enable /Disable Code 93	95
Code 93 Code ID	95
Check Digit	96
Select Message Length	97
Code 11	98
Load Factory Default.....	98
Enable/ Disable Code 11.....	98
Code 11 Code ID	98
Check Digit	99
Select Message Length	100
Plessey	101
Load Factory Default.....	101
Enable/ Disable Plessey	101
Plessey Code ID.....	101
Check Digit	102
Select Message Length	103
MSI-Plessey.....	104
Load Factory Default.....	104
Enable/ Disable MSI-Plessey	104
MSI-Plessey Code ID	104
Check Digit	105
Select Message Length	106
GS1 Databar.....	107
Load Factory Default.....	107
Enable/ Disable GS1 Databar	107
GS1 Databar Code ID.....	107

Appendix

Factory Default List.....	108
AIM ID List.....	114
Code ID List.....	115
Digit Code.....	116
Save and Abort.....	118





About this guide

Introduction

This FM100 1D CCD Fixed Scan Engine Integration Guide provides general instructions for OEM integration.

Graphic Notations



Tool – Handy item for a task.



Attention – Important subject to be aware of or to avoid.



Tips – Helpful information about a topic or a feature.



Example – Illustration of how to use a feature.



About this guide

Newland Auto-ID Support Center

If you have a problem with your equipment, contact the Newland Support Center in your region. Before calling, have the model number, serial number, and several of your barcodes at hand.

Call the support Center from a phone near the scanning equipment so that the service person can try to talk you through your problem. If the equipment is found to be working properly and the problem is barcode readability, the Support Center will request samples of your bar codes for analysis at our plant.

If your problem cannot be solved over the phone, you may need to return your equipment for servicing. If that is necessary, you will be given specific directions.

Note: Newland Auto-ID Tech. is not responsible for any damages incurred during shipment.

For service information, warranty information or technical assistance contact or call the Support Center listed below. For the latest service information go to <http://www.nlscan.com/en>





Getting to Start

Introduction

FM100 is a 1D barcode reader. Newland Auto-ID patented **UIMG**[™] technology ensure FM100 fast image capture and accurate decoding. It provides the customer the best value.

This chapter presents an overall picture of how to use FM100 step by step. Please have an FM100 handy.

This chapter is recommended to general users, maintenance personnel, and software programmers.



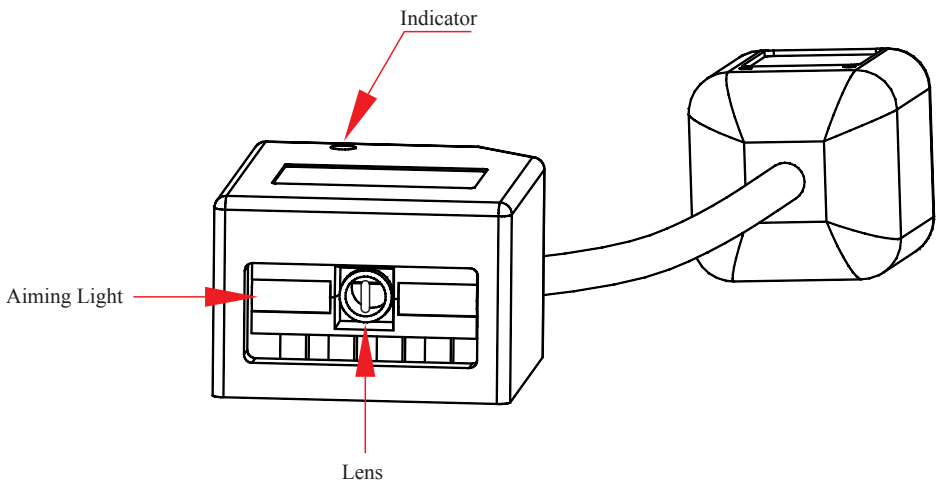


Unpacking

Unpack FM100 and accessories. Check with the packing list. Make sure that there is no damage or missing part(s). If any damage or missing parts, please keep the original package and contact your supplier for services.

Outline of FM100

The figure below shows major components of FM100.



FM100 Outline

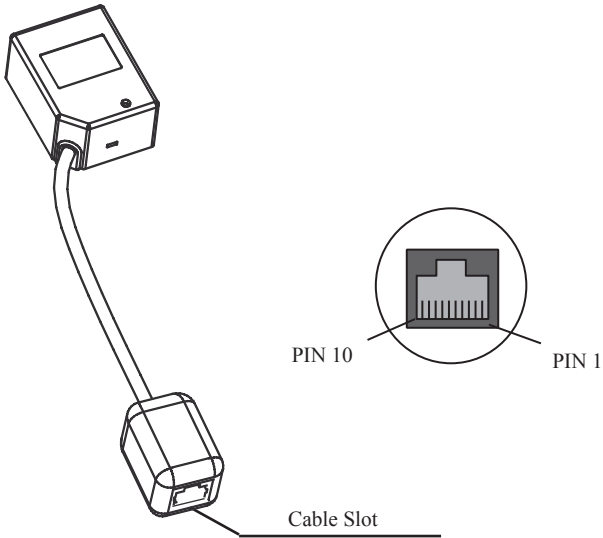
Note:

- » The scan window must be kept clean. Improper maintenance will breach the limited warranty.
- » Avoid rough objects not to damage or scratch the window.
- » Use brush to remove the stain.
- » Use soft cloth (cloth for glasses) to clean.
- » Prohibit spraying towards the window.
- » Only use clean water as a cleanser.





Data Interface



Pin	Function	Type	Name
1	NC		Null
2	NC		Null
3	VCC	P	Power DC5V
4	TXD	O	Serial Port Output, RS232
5	RXD	I	Serial Port Input, RS232
6	NC		Null
7	NC		Null
8	GND	P	Ground
9	D-	IO	USB Data Signal
10	D+	IO	

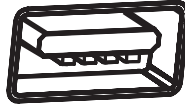




FM100 must connect to a Host to operate. A Host can be PC, POS, or any intelligent terminal with at least one of the following communication ports: USB, RS232, or PS/2.

1、USB

USB port on Host:



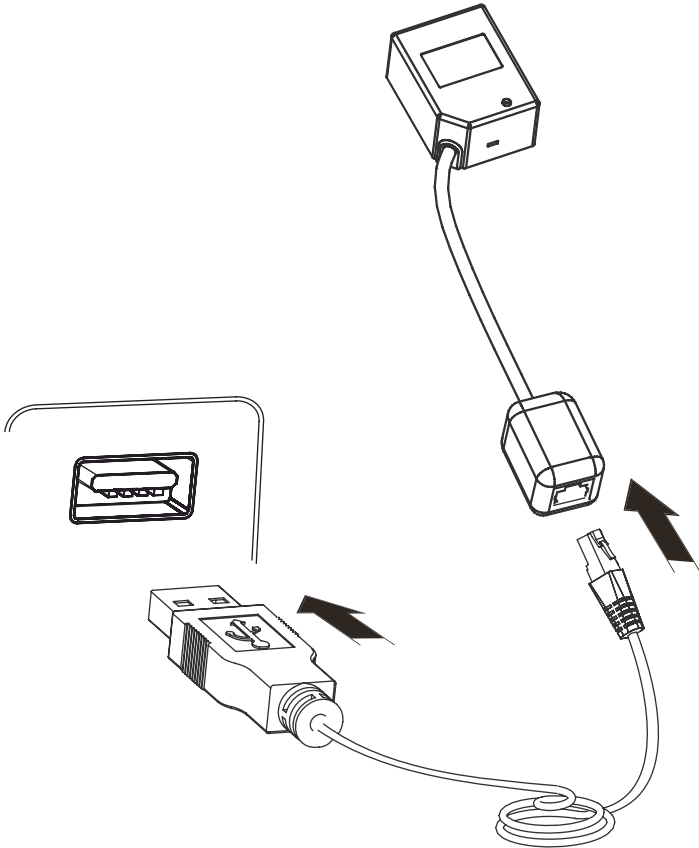
2、RS232

RS232 port on Host:



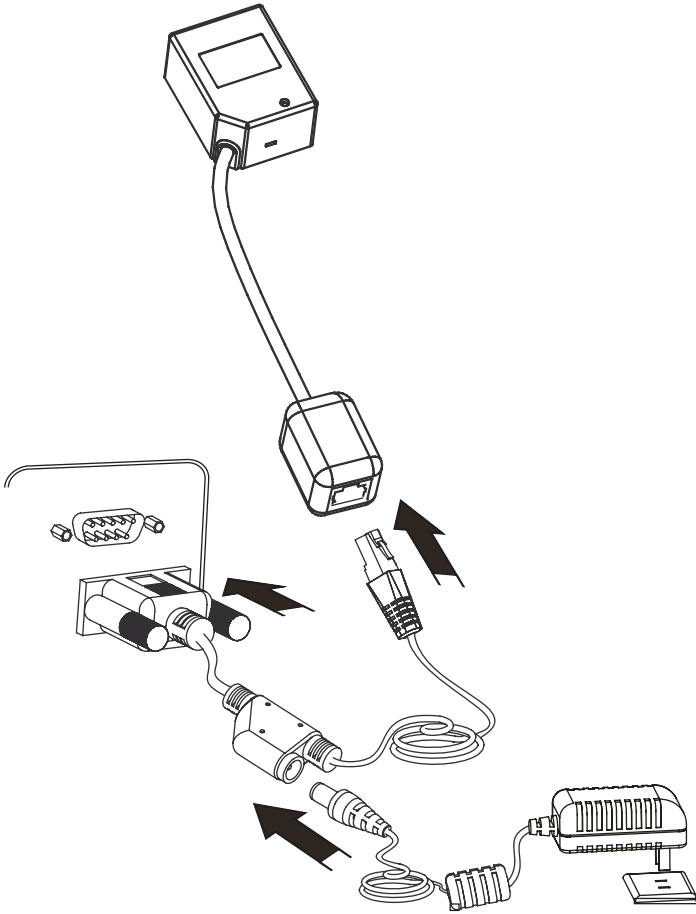
Please check the ports first to order the fitting cable.



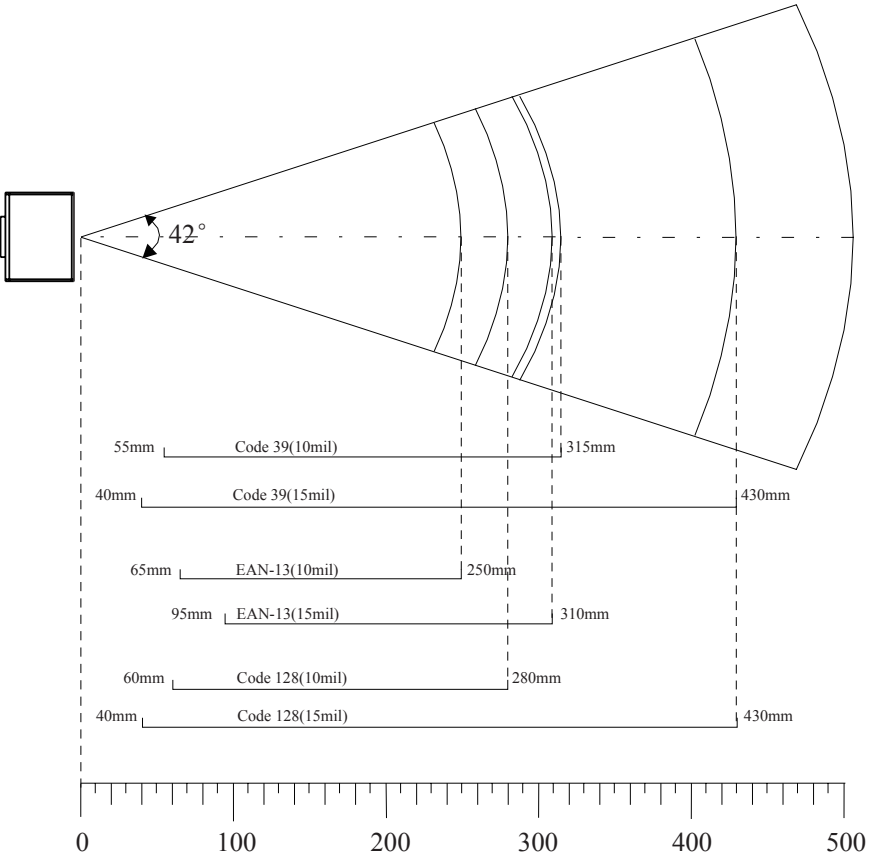


- 1、 Insert USB Cable (RJ45 male head) into FM100 cable slot;
- 2、 Insert USB Cable (USB male head) into Host' s (female) USB connector;





- 1、 Insert RS232 cable (RJ45 male head) into FM100 cable slot;
- 2、 Insert RS232 cable (RS232 male head) into Host' s (female) RS232 connector;
- 3、 Connect RS232 cable and the mains with power adapter;





Performance

Interface	RS232, USB 1.1	
Image Sensor	CCD	
Resolving	2500	
Symbologies	Code128, EAN-13, EAN-8, Code39, UPC-A, UPC-E, Codabar, Interleaved 2 of 5, ISBN/ISSN, Code 93, UCC/EAN-128, GSI Databar, etc.	
Precision	≥ 5mil (Condition:PCS=0.9, testing code: Code 39)	
Light Source	LED(622 nm - 628 nm)	
Light Intensity	265 LUX (130 mm)	
Depth of Scan Field	40mm-430mm	
Print Contrast Signal	≥ 30%	
Sensitivity**	Pitch	±65° @ 0° Roll and 0° Skew
	Roll	±30° @ 0° Pitch and 0° Skew
	Skew	±60° @ 0° Roll and 0° Pitch
Illumination	0 ~ 100,000 LUX	

Mechanical/ Electrical

Power Consumption	1.25 W	
Voltage	DC 5 V	
Current	Max	250mA
	Working	170mA
	Idle	65mA
Dimensions	49.0*37.0*26.0 mm	
Weight	70g	

Environment

Operate Temperature	-5° C - +45° C
Storage Temperature	-40° C - +60° C
Humidity	5% - 95% (non-condensing)

Certificates

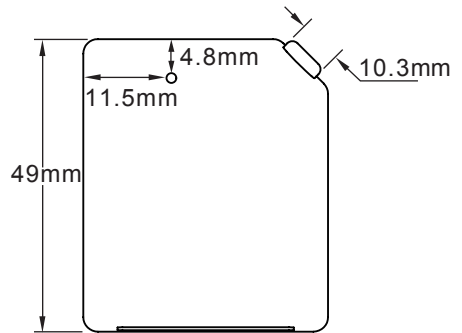
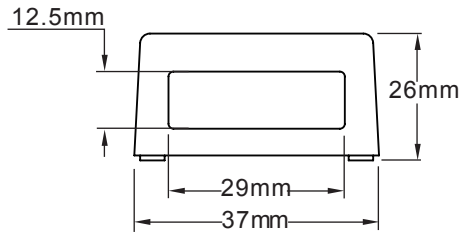
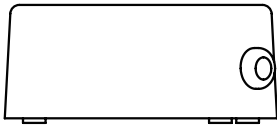
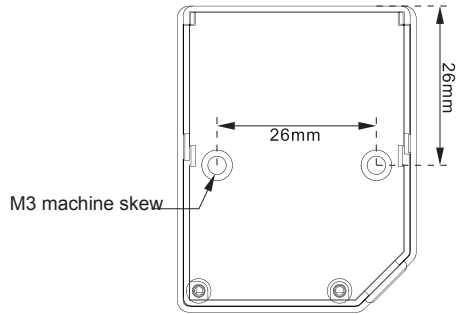
FCC Part15 Class B, CE EMC Class B

**Test Condition:

Code39: 3 Bytes ; Resolution = 10mil; W:N = 3:1 ; PCS = 0.8 ;

Barcode Height = 11mm; Distance = 120mm; T=23° C; Illumination= 200 LUX







General Programming

Introduction

There are 2 ways to program (configure) the Engine, Code Programming and Command Programming.

Code Programming

The Engine reads a set of specially encoded barcodes to program options and features. In the following sections, we will explain the options and features available and provide the barcodes to program them.

This method of programming the Engine is most straight forward. However, it requires manually readings of each barcode. As all manual operations, errors are more likely to occur.

Command Programming

The Host can send the Pro CMD strings to program the Engine. In the following sections, the Pro CMD strings will be included with the barcodes for Code Programming.

This method of programming the Engine could be automated. A software program can be developed to download all the configuration data to the Engine. The program can also verify the download.

Note: Except some temporary programming, the programming results are restored in non-volatile memory. They will not be lost when the Engine is powered off.





Code Programming ON



Code Programming OFF



This is the notation to disable the Code Programming.

There are 3 parts of a notation:

- 1、 The barcode for Code Programming
- 2、 The name of the options or features, such as Disable Code Programming.
- 3、 The corresponding Pro CMD string of the Code Programming.





Code Programming ON



Code Programming OFF



Read the “Code Programming ON” barcode to activate “Code Programming” function. More than one Code Programming barcodes can be read to configure the Engine.

If an option or feature needs additional parameters, such as digits, they can be found at the end of this chapter.

The value of code programming can be sent to the Host. For factory default, “No Send Pro Code Value”, the value of programming codes will not be sent to the Host; by reading “Send Pro Code Value”, the reader will send the value of Programming Code to the Host.

The factory default setting is “Code Programming ON”. Because it has low probability that a data barcode is the same as a programming barcode, it doesn't need to close the function of Code Programming. Keeping it on won't affect the daily using.

Some working parameters could be programmed. The data type of parameters is Dec or Hex and the numbers are also input through programming barcodes. The Appendix of the Integration Guide includes all needed data barcodes.

Programming barcodes are used to program the engine. For factory default, the reader will not send code value to the Host. But if needed, the engine could be programmed to "Send Pro Code Value". And whether the value is sent or not won't affect the programming function. But "Send Pro Code Value" is a temporary setting. It will restore to "No Send Pro Code Value" when the engine is restarted or closed.



Code Programming ON
【Pro CMD: 99900031】



Code Programming OFF
【Pro CMD: 99900032】



No Send Pro Code Value
【Pro CMD: 99900033】

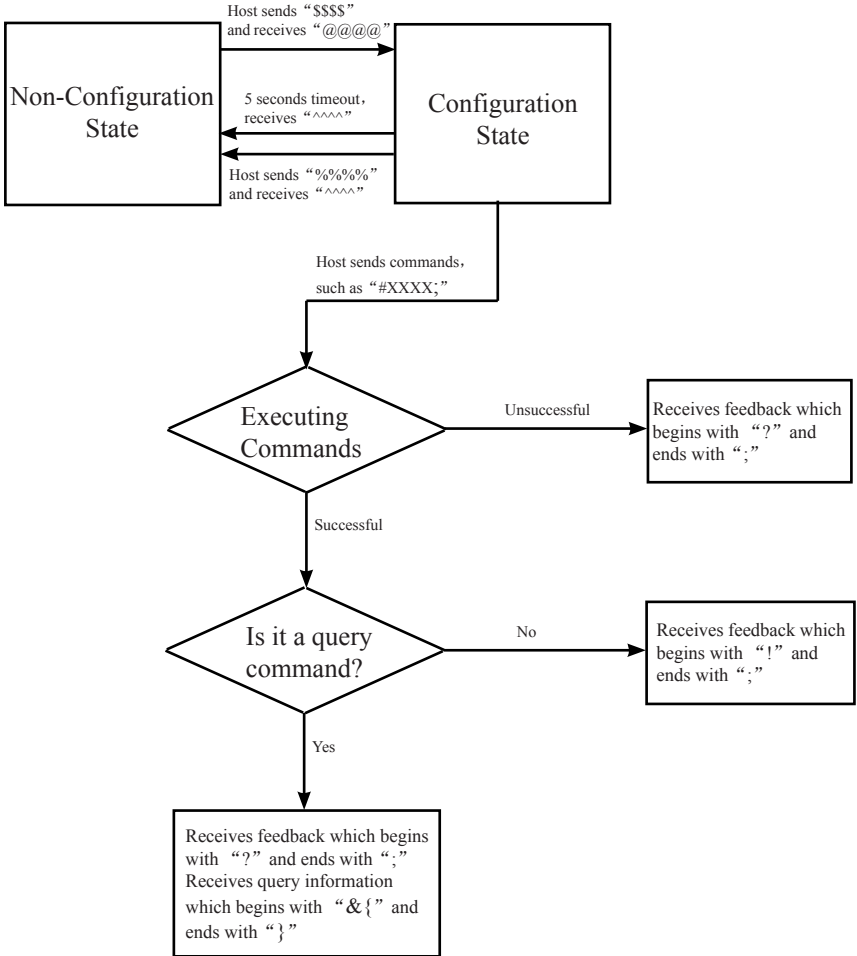


Send Pro Code Value
【Pro CMD: 99900034】





3、 Flow Chart





Factory Default

Read “Load All Factory Default” to reset all parameters to factory default.

Applicable conditions:

- » User options programming wrong configuration leads to reading malfunction
- » Forget details of previous programming and start over.
- » Restore to default after unusual settings are not needed.

Code Programming ON



Code Programming OFF



Load All Factory Default
【Pro CMD: 99900030】





Code Programming ON



Code Programming OFF



Shut Down¹

【Pro CMD: 99900100】



Deep Sleep²

【Pro CMD: 99900101】



Sleep³

【Pro CMD: 99900102】



Test Mode⁴

【Pro CMD: 99900103】



Restart

【Pro CMD: 99900104】

Note:

- 1、 The engine couldn't be awaked. It must restart or power on.
- 2、 It should be awaked by a trigger.
- 3、 It could be awaked by communication or a trigger.
- 4、 Use a trigger to quit test mode.



All these five modes are temporary. They will disappear and restore to former mode if the engine restarts or powers off.



Auto Mode

First program the engine, then trigger it, the engine will start to scan. After a scan, the engine will not stop but start a new one automatically until another trigger. By default, the engine will not repeat reading a same barcode.

Code Programming ON



Code Programming OFF



Auto Mode

【Pro CMD: 99900111】

In auto mode, the engine could set Reading a barcode time length, and set if it could read same barcode.



Reading a barcode time length

【Pro CMD: 99900150】



Disable Reading Same Barcode

【Pro CMD: 99900155】



Restart Timer After a Valid Reading

【Pro CMD: 99900157】



Enable Reading Same Barcode

【Pro CMD: 99900156】



Do Not Restart Timer After a Valid Reading

【Pro CMD: 99900160】

» Reading Same Barcode

When enabled, after a successful read, the engine will not stop but start a new one automatically until another trigger.

When disabled, after a successful read, if the next barcode is the same one, the engine will keep waiting. If the next barcode is different, the engine will not stop but start a new one automatically until another trigger.

» Restart Timer After a Valid Reading

When enabled, after a successful read, the engine will revert the reading time to zero and restart timer.

When disabled, no matter how many barcodes have been read, when the length of reading time is equal to the default value of "Reading a barcode time length", the engine will stop reading.





Interval Mode

After programming, the engine will start interval scan without trigger. The interval between two scans is fixed whether the scan is successful or not. The value of interval could be programmed by user and the default value is 1s.

Code Programming ON



Code Programming OFF



Interval Mode

【Pro CMD: 99900112】



Reading a barcode time length

【Pro CMD: 99900150】



Interval Length

【Pro CMD: 99900151】

Interval takes 500ms as a unit and could be classed in fifteen levels:0-15.For instance, interval could be programmed to 5000ms:

- 1、Read “Code Programming ON”
- 2、Read “Interval Length”
- 3、Read numbers “1” “0”
- 4、Read “Code Programming OFF”





Sensor Mode

After programming, the engine will start to sense the environment without trigger. After a scan, it will stop and keep sensing to wait another illumination changing. In sensor mode, a trigger also can start a scan. The sensitivity level could be chosen.

Code Programming ON



Code Programming OFF



Sensor Mode

【Pro CMD: 99900113】

In sensor mode, the engine could set Reading a barcode time length, and set interval length as sensing stabilization time.



Reading a barcode time length

【Pro CMD: 99900150】



Interval Length

【Pro CMD: 99900151】

Sensitivity is used to evaluate the engine's ability to sense the changing environment. Users can choose a sensitivity level which suits the environment.



High Sensitivity

【Pro CMD: 99900152】



Low Sensitivity

【Pro CMD: 99900154】



Medium Sensitivity

【Pro CMD: 99900153】



User Sensitivity

【Pro CMD: 99900161】

Sensitivity Level Programming

There are sixteen levels of 0 to F. The lower the value is, the higher the sensitivity level is.

For instance, we could program sensitivity level as 5 level.

- 1、Read “Code Programming ON”
- 2、Read “User Sensitivity”
- 3、Read number “5”
- 4、Read “Code Programming OFF”





Continuous Mode

After programming, the engine will be in continuous mode without trigger. After a successful scan, the engine will be in waiting state until another scan, then wait again.

Code Programming ON



Code Programming OFF



Continuous Mode

【Pro CMD: 99900114】

In continuous mode, the engine could set Reading a barcode time length and interval length.



Reading a barcode time length

【Pro CMD: 99900150】



Interval Length

【Pro CMD: 99900151】





Delayed Sensor Mode

After programming, the engine will start to sense the environment without trigger. There will be a delay before a scan. After a scan, it will stop and keep sensing to wait another illumination changing. In delayed sensor mode, a trigger also can start a scan. The sensitivity level could be chosen.

Code Programming ON



Code Programming OFF



Delayed Sensor Mode
【Pro CMD: 99900115】

In delayed sensor mode, the engine could set Reading a barcode time length and interval length.



Reading a barcode time length
【Pro CMD: 99900150】



Interval Length
【Pro CMD: 99900151】



In delayed sensor mode, reading a barcode time takes 2s as a unit and the range is from 0 to 30ms, 0 is infinite time; Interval takes 200ms as unit and the range is from 0 to 7.5s.



Command Triggered Mode

After programming, when FM100 receives trigger sweep command from terminal (e.g. PC) or read "Start Analog Trigger" barcode, the engine will start to work.

PS: If reading is successful, data will be returned and the engine will stop working automatically. Or the engine will keep reading until receiving stop command or reading "Stop Analog Trigger".

When FM100 receives stop command from terminal (e.g. PC) or read "Stop Analog Trigger" barcode, the engine will stop. Meanwhile a 2 byte data (e.g. 0A;0X) must be returned.

Code Programming ON



Code Programming OFF



Command Triggered Mode
【Pro CMD: 99900116】



Start Analog Trigger
【Pro CMD: 99900035】



Stop Analog Trigger
【Pro CMD: 99900036】

If a reading is failed, the engine will send a character which means a reading failure. Users could set the character themselves.



Set Reading Failure Character
【Pro CMD: 99904200】





The higher the value of Security Level is, the lower the probability of mis-decoding and the decoding speed are. Otherwise, the speed is higher.

Code Programming ON



Code Programming OFF



Security Level 1

【Pro CMD: 99900120】



Security Level 3

【Pro CMD: 99900122】



Security Level 2

【Pro CMD: 99900121】



Security Level 4

【Pro CMD: 99900123】



Code Programming ON



Code Programming OFF



No Beeper Output
【Pro CMD: 99900130】



High Frequency & Loud Volume
【Pro CMD: 99900131】



Low Frequency & Loud Volume
【Pro CMD: 99900137】



High Frequency & Medium Volume
【Pro CMD: 99900132】



Low Frequency & Medium Volume
【Pro CMD: 99900140】



High Frequency & Low Volume
【Pro CMD: 99900133】



Low Frequency & Low Volume
【Pro CMD: 99900141】



Medium Frequency & Loud Volume
【Pro CMD: 99900134】



150ms Sound Length
【Pro CMD: 99900142】



Medium Frequency & Medium Volume
【Pro CMD: 99900135】



100ms Sound Length
【Pro CMD: 99900143】



Medium Frequency & Low Volume
【Pro CMD: 99900136】



50ms Sound Length
【Pro CMD: 99900144】





Start/Stop Temporary Mute

Code Programming ON



Code Programming OFF



Start Temporary Mute
【Pro CMD: 99900040】



Stop Temporary Mute
【Pro CMD: 99900041】





Query Command

Introduction

After reading interrelated programming barcodes, the engine will feed information needed back to the Host to achieve the purpose of query.



Code Programming ON



Code Programming OFF



Query Product Information
【Pro CMD: 99900300】



Query Manufacturing Date
【Pro CMD: 99900303】



Query Hardware Version
【Pro CMD: 99900301】



Query Product Name
【Pro CMD: 99900304】



Query Product ID
【Pro CMD: 99900302】





Communication Programming

Introduction

Under RS232 connection the engine and the Host use the same communication parameters: baud rate, parity check, data bits select and stop bits select.





Baud Rate

Code Programming ON



Under RS232 connection, the engine and the Host should set communication baud rate to the same to keep normal communication.
Baud rate is the bits transmitted per second (8 bits per bytes). The engine and the Host must communicate at the same baud rate.
The reader supports baud rate as the following:

Code Programming OFF



9600

【Pro CMD: 99902104】



1200

【Pro CMD: 99902101】



2400

【Pro CMD: 99902102】



4800

【Pro CMD: 99902103】



14400

【Pro CMD: 99902105】



19200

【Pro CMD: 99902106】



38400

【Pro CMD: 99902107】



57600

【Pro CMD: 99902110】



115200

【Pro CMD: 99902111】





Check

Code Programming ON



Code Programming OFF



No Check

【Pro CMD: 99902120】



Even Check

【Pro CMD: 99902122】



Odd Check

【Pro CMD: 99902121】





Stop Bit

Code Programming ON



Code Programming OFF



1 Stop Bit

【Pro CMD: 99902131】



2 Stop Bit

【Pro CMD: 99902133】





Flow Control

Code Programming ON



Code Programming OFF



No Flow Control
【Pro CMD: 99902140】





Data Bit

Code Programming ON



Code Programming OFF



8 Data Bit

【Pro CMD: 99902150】



8 Data Bit, No Check, 2 Stop Bit

【Pro CMD: 99902163】



8 Data Bit, No Check, 1 Stop Bit

【Pro CMD: 99902160】



8 Data Bit, Even Check, 2 Stop Bit

【Pro CMD: 99902164】



8 Data Bit, Even Check, 1 Stop Bit

【Pro CMD: 99902161】



8 Data Bit, Odd Check, 2 Stop Bit

【Pro CMD: 99902165】



8 Data Bit, Odd Check, 1 Stop Bit

【Pro CMD: 99902162】





Code Programming ON



Code Programming OFF



7 Data Bit

【Pro CMD: 99902151】



7 Data Bit, Even Check, 2 Stop Bit

【Pro CMD: 99902170】



7 Data Bit, Even Check, 1 Stop Bit

【Pro CMD: 99902166】



7 Data Bit, Odd Check, 2 Stop Bit

【Pro CMD: 99902171】



7 Data Bit, Odd Check, 1 Stop Bit

【Pro CMD: 99902167】





USB HID-KBW

Code Programming ON



Code Programming OFF



USB HID-KBW

【Pro CMD: 99902300】



The engine will work under USB HID-KBW Connection only when its RS232 parameters are all factory default value, which are listed in the table below.

Parameters	Value
Baud Rate	9600
Serial Port Check	No Check
Stop Digit	1 Digit
Flow Controlling	No Flow Controlling
Data Bit	8 Bit



Keyboard Layout

Code Programming ON



Code Programming OFF



No.1 American

【Pro CMD: 99902201】

Character Delay

The default value of Character delay time is 0ms.



Chracter Delay

【Pro CMD: 99902220】

Character Conversion



Constant

【Pro CMD: 99902230】

Nums Lock



Nums Unlock

【Pro CMD: 99902243】



The USB HID-KBW Connection will only work in factory default state. If they are changed by accident, please read the barcodes above to restore to factory default.



Data Format

Introduction

1D barcodes could contain digits, letters and symbols, etc. 2D barcodes could contain more data, such as Chinese characters and other multi-byte characters. However, in reality, they do not and should not have enough information we need, such as barcode type, date and time of scan, delimiter, and so on, in order to keep the code short and flexible.

Prefix and Suffix are how to fulfill the needs mentioned above. They can be added, removed, and modified while the original barcode message is still in tact.



Barcode processing sequences: first add Prefix/Suffix, then terminate with
Terminal and transmit.



Code Programming ON



Code Programming OFF



CodeID+User Prefix+AIMID
【Pro CMD: 99904010】



User Prefix+CodeID+AIMID
【Pro CMD: 99904011】





Disable or Enable User Prefix

User Prefix is added before barcode message. For example, if the user prefix is “AB” and the barcode message is “123” , the Host receives “AB123” .

Code Programming ON



Code Programming OFF



Disable User Prefix
【Pro CMD: 99904020】



Enable User Prefix
【Pro CMD: 99904021】

Program User Prefix

Enable “Program User Prefix” . Then program user prefix byte(s). To end the prefix, read “Save programming” The user prefix byte is programmed in its hex values. See example below.



Program User Prefix
【Pro CMD: 99904022】

Example

Program “CODE” as user prefix (The hex of “CODE” are 0x43/0x4F/0x44/0x45):

1. Read “Code Programming ON”
2. Read “Program User Prefix”
3. Read “4,3,4,F,4,4,4,5” in order
4. Read “Save Programming”
5. Read “Code Programming OFF” .
6. Read “Allow User Prefix” to enable above programming. “CODE” will appear to the left of a barcode.





AIM (Automatic Identification Manufactures) defines AIM prefix for many standard barcode formats. The engine will add the identifier before the barcodes. And this identifier is the AIM Prefix. And please see Appendix to find the AIM ID list.

Code Programming ON



Code Programming OFF



Disable AIM Prefix for All Barcodes

【Pro CMD: 99904030】



Enable AIM Prefix for All Barcodes

【Pro CMD: 99904031】



Besides AIM prefix, Code ID prefix can be used to denote barcode format and can be customized.

The Code ID prefix **MUST** be one (1) or two(2) visible English letters, capital or small, only.

Code Programming ON



Code Programming OFF



No Code ID Prefix
【Pro CMD: 99904040】



Allow Code ID Prefix
【Pro CMD: 99904041】



Load Code ID Factory Default
【Pro CMD: 99904042】





Disable or Enable User Suffix

User suffix is appended to the right of barcode message. For example, if user suffix is “AB” , and the barcode message is “123” , The Host receives “123AB” .

Code Programming ON



Code Programming OFF



Disable User Suffix
【Pro CMD: 99904100】



Enable User Suffix
【Pro CMD: 99904101】

Program User Suffix

Read “Program User Suffix” . Then program user suffix byte(s). To end the suffix, read “Save programming” . The user suffix byte is programmed in its hex values. See example below.



Program User Suffix
【Pro CMD: 99904102】

Example

Program “AGE” as user suffix (The hex of “AGE” are 0x41/0x47/0x45):

1. Read “Code Programming ON”
2. Read “Program User Suffix”
3. Read “4,1,4,7,4,5” in order
4. Read “Save Programming”
5. Read “Code Programming OFF”
6. Read “Allow User Suffix” to enable above programming. “AGE” will appear to the right of a barcode.





Disable or Enable Terminal

“Terminal” is the termination for a string of barcode messages. It is fixed to the right and the very end of a barcode transmission. The major difference between "Terminal" and "User Suffix" is that the information and the decoded messages in user suffix could be formatted but couldn't in terminal.

Code Programming ON



Code Programming OFF



Disable Terminal
【Pro CMD: 99904110】



Enable Terminal
【Pro CMD: 99904111】

Program Terminal

Read “Program Terminal” . Then program terminal byte(s). At last, read “Save programming” . The terminal byte is programmed in its hex values. See example below.



Program Terminal
【Pro CMD: 99904112】



Set Terminal as 0x0D and Enable Sending
【Pro CMD: 99904113】



Set Terminal as 0x0D,0x0A and Enable Sending
【Pro CMD: 99904114】

E *example*

Program a Windows OS general line feed and carriage return as terminal

1. Read “Code Programming ON”
 2. Read “Program Terminal”
 3. Read “Set Terminal as 0x0D,0x0A and Enable Sending”
 4. Read “Save ”
 5. Read “Code Programming OFF”
 6. Read “Allow Terminal” to enable above programming. A line feed will appear to the right of a barcode.
-





Symbols

Introduction

Each type of barcode has its unique attribute. With the programming code, the engine will adjust to the changes of these attributes. Disabling reading of the symbols which do not apply will improve reading performance.





Load Factory Default



Load Code 128 Factory Default
【Pro CMD: 99910000】

Code Programming ON



Code Programming OFF



Enable/Disable Code 128



Enable Code 128
【Pro CMD: 99910002】



Disable Code 128
【Pro CMD: 99910001】



When the engine can not read Code 128, please read “Enable Code 128” and try again.

Code 128 Code ID



Code ID Setting
【Pro CMD: 99910005】

E
Example

Example of setting Code 128 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read Code 128 Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Select Message Length

It is used to program the valid reading length of Code 128. The engine will send an error beep, if the decoded data length does not match the valid length.

Code 128 Message Length is defined by “Min. Message Length” and “Max. Message Length” .

Code Programming ON



Code Programming OFF



Min Message Length
【Pro CMD: 99910003】



Max Message Length
【Pro CMD: 99910004】



1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of Code 128 to 8 bytes and Max Message Length to 12 bytes, read these programming codes

- 1、 “Code Programming ON”
- 2、 “Select Min Message Length”
- 3、 Digit Code “8” , see Digit Code
- 4、 “Save Programming” , see Digit Code
- 5、 “Select Max Message Length”
- 6、 Digit Code “1”
- 7、 Digit Code “2”
- 8、 “Save Programming”
- 9、 “Code Programming OFF”



Load Factory Default



Load UCC/EAN-128 Factory Default

【Pro CMD: 99910100】

Code Programming ON



Code Programming OFF



Enable/Disable UCC/EAN-128



Enable UCC/EAN-128
【Pro CMD: 99910102】



Disable UCC/EAN-128
【Pro CMD: 99910101】



When the engine can not read UCC/EAN-128, please read “Enable UCC/EAN-128” and try again.

UCC/EAN-128 Code ID



Code ID Setting
【Pro CMD: 99910105】

E
example

Example of setting UCC/EAN-128 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read UCC/EAN-128 Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Select Message Length

It is used to program the valid reading length of UCC/EAN-128. The engine will send an error beep, if the decoded data length does not match the valid length.

UCC/EAN-128 Message Length is defined by “Min. Message Length” and “Max. Message Length” .

Code Programming ON



Code Programming OFF



Min Message Length
【Pro CMD: 99910103】



Max Message Length
【Pro CMD: 99910104】



1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of UCC/EAN-128 to 8 bytes and Max Message Length to 12 bytes, read these programming codes

- 1、 “Code Programming ON”
- 2、 “Select Min Message Length”
- 3、 Digit Code “8” , see Digit Code
- 4、 “Save Programming” , see Digit Code
- 5、 “Select Max Message Length”
- 6、 Digit Code “1”
- 7、 Digit Code “2”
- 8、 “Save Programming”
- 9、 “Code Programming OFF”



Load Factory Default



Load AIM 128 Factory Default
【Pro CMD: 99910200】

Code Programming ON



Code Programming OFF



Enable/Disable AIM 128



Enable AIM 128
【Pro CMD: 99910202】



Disable AIM 128
【Pro CMD: 99910201】



When the engine can not read AIM 128, please read “Enable AIM 128” and try again.

AIM 128 Code ID



Code ID Setting
【Pro CMD: 99910205】

E
example

- Example of setting AIM 128 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
 2. Read AIM 128 Code ID Setting barcode.
 3. Read Following Barcodes: “7” , and “0”
 4. Read Save barcode
 5. Read Disable Code Programming barcode.



Select Message Length

It is used to program the valid reading length of AIM 128. The engine will send an error beep, if the decoded data length does not match the valid length.

AIM 128 Message Length is defined by “Min. Message Length” and “Max. Message Length” .

Code Programming ON



Code Programming OFF



Min Message Length
【Pro CMD: 99910203】



Max Message Length
【Pro CMD: 99910204】



1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of AIM 128 to 8 bytes and Max Message Length to 12 bytes, read these programming codes

- 1、 “Code Programming ON”
- 2、 “Select Min Message Length”
- 3、 Digit Code “8” , see Digit Code
- 4、 “Save Programming” , see Digit Code
- 5、 “Select Max Message Length”
- 6、 Digit Code “1”
- 7、 Digit Code “2”
- 8、 “Save Programming”
- 9、 “Code Programming OFF”



Load Factory Default



Load EAN-8 Factory Default
【Pro CMD: 99910400】

Code Programming ON



Code Programming OFF



Enable/Disable EAN-8



Enable EAN-8
【Pro CMD: 9991402】



Disable EAN-8
【Pro CMD: 99910401】



When the engine can not read EAN-8, please read “Enable EAN-8” and try again.

EAN-8 Code ID



Code ID Setting
【Pro CMD: 99910416】

E
example

Example of setting EAN-8 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read EAN-8 Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





2 Digits Addenda Code

2 Digits Addenda Code is the one to the right of an ordinary code.



Disable 2 Digits Addenda Code
【Pro CMD: 99910405】

Code Programming ON



Code Programming OFF



Only Read With 2 digits Addenda Code
【Pro CMD: 99910407】



Enable 2 Digits Addenda Code
【Pro CMD: 99910406】

5 Digits Addenda Code

5 Digits Addenda Code is the one to the right of an ordinary code.



Disable 5 Digits Addenda Code
【Pro CMD: 99910410】



Only Read With 5 digits Addenda Code
【Pro CMD: 99910412】



Enable 5 Digits Addenda Code
【Pro CMD: 99910411】



“ Enable 2 Digits Addenda Code “ — read an ordinary code and 2 digits Addenda Code.
“ Disable 2 Digits Addenda Code “ — read an ordinary code only, and ignore 2 digits Addenda Code.
“ Only Read With 2 digits Addenda Code “ — read 2 digits Addenda Code and only read code with 2 digits Addenda Code.



EAN-8 expand to EAN-13

“ Do Not Expand to EAN-13 “ — keep original type and digits, do not expand.

“ Expand to EAN-13 by Adding Leading 0s “ — expand to EAN-13 but keep code type.

“ Expand Message and Convert to EAN-13 “ — expand code digits and convert code type.

Code Programming ON



Code Programming OFF



Do Not Expand to EAN-13
【Pro CMD: 99910413】



Expand Message and Convert to EAN-13
【Pro CMD: 99910415】



Expand to EAN-13 by Adding Leading 0s
【Pro CMD: 99910414】

Check Digit

EAN-8 is fixed 8 digits barcode and the last digit is check digit. Check digit is a value calculated from all digits. It is used for checking if the all 8 digits are right.



Transmit Check
【Pro CMD: 99910404】



Do Not Transmit Check
【Pro CMD: 99910403】





Load Factory Default

Code Programming ON



Code Programming OFF



Load EAN-13 Factory Default

【Pro CMD: 99910500】

Disable/Enable EAN-13



Enable EAN-13

【Pro CMD: 99910502】



Disable EAN-13

【Pro CMD: 99910501】



When the engine can not read EAN-13, please read “Enable EAN-13” and try again.





Check Digit

Code Programming ON



EAN-13 is fixed 13 digits barcode and the last digit is check digit. Check digit is a value calculated from all digits. It is used for checking if the all 13 digits are right.



Transmit Check

【Pro CMD: 99910504】



Do Not Transmit Check

【Pro CMD: 99910503】

EAN-13 Code ID



Code ID Setting

【Pro CMD: 99910513】

Example

Example of setting EAN-13 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read EAN-13 Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





2 Digits Addenda Code

2 Digits Addenda Code is the one to the right of an ordinary code.



Disable 2 Digits Addenda Code

【Pro CMD: 99910505】



Only Read With 2 digits Addenda Code

【Pro CMD: 99910507】



Enable 2 Digits Addenda Code

【Pro CMD: 99910506】

Code Programming ON



Code Programming OFF



5 Digits Addenda Code

5 Digits Addenda Code is the one to the right of an ordinary code.



Disable 5 Digits Addenda Code

【Pro CMD: 99910510】



Only Read With 5 digits Addenda Code

【Pro CMD: 99910512】



Enable 5 Digits Addenda Code

【Pro CMD: 99910511】



“ Enable 2 Digits Addenda Code “ — read an ordinary code and 2 digits Addenda Code.
“ Disable 2 Digits Addenda Code “ — read an ordinary code only, and ignore 2 digits Addenda Code.
“ Only Read With 2 digits Addenda Code “ — read 2 digits Addenda Code and only read code with 2 digits Addenda Code.



Load Factory Default



Load ISSN Factory Default
【Pro CMD: 99910600】

Code Programming ON



Code Programming OFF



Enable/Disable ISSN



Enable ISSN
【Pro CMD: 99910602】



Disable ISSN
【Pro CMD: 99910601】



When the engine can not read ISSN, please read “Enable ISSN” and try again.

ISSN Code ID



Code ID Setting
【Pro CMD: 99910603】

E
example

Example of setting ISSN Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read ISSN Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Load Factory Default



Load ISBN Factory Default
【Pro CMD: 99910700】

Code Programming ON



Code Programming OFF



Enable/Disable ISBN



Enable ISBN
【Pro CMD: 99910702】



Disable ISBN
【Pro CMD: 99910701】



When the engine can not read ISBN, please read “Enable ISBN” and try again.



ISBN Digits



Use 13 Digits

【Pro CMD: 99910704】

Code Programming ON



Code Programming OFF



Use 10 Digits

【Pro CMD: 99910703】

ISBN Code ID



Code ID Setting

【Pro CMD: 99910705】

E
xample

Example of setting ISBN Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read ISSN Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Load Factory Default



Load UPC-E Factory Default

【Pro CMD: 99911000】

Code Programming ON



Code Programming OFF



Disable/Enable UPC-E



Enable UPC-E

【Pro CMD: 99911002】



Disable UPC-E

【Pro CMD: 99911001】



When the engine can not read UPC-E, please read “Enable UPC-E” and try again.



Check Digit

UPC-E is fixed 8 digits barcode and the last digit is check digit. Check digit is a value calculated from all digits. It is used for checking if the all 8 digits are right.

Code Programming ON



Code Programming OFF



Transmit Check

【Pro CMD: 99911004】



Do Not Transmit Check

【Pro CMD: 99911003】

UPC-E Code ID



Code ID Setting

【Pro CMD: 99911020】

E

example

Example of setting UPC-E Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read UPC-E Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





2 Digits Addenda Code

2 Digits Addenda Code is the one to the right of an ordinary code.



Disable 2 Digits Addenda
【Pro CMD: 99911005】



Only Read With 2 digits Addenda Code
【Pro CMD: 99911007】



Enable 2 Digits Addenda Code
【Pro CMD: 99911006】

Code Programming ON



Code Programming OFF



5 Digits Addenda Code

5 Digits Addenda Code is the one to the right of an ordinary code.



Disable 5 Digits Addenda Code
【Pro CMD: 99911010】



Only Read With 5 digits Addenda Code
【Pro CMD: 99911012】



Enable 5 Digits Addenda Code
【Pro CMD: 99911011】



“ Enable 2 Digits Addenda Code “ — read an ordinary code and 2 digits Addenda Code.
“ Disable 2 Digits Addenda Code “ — read an ordinary code only, and ignore 2 digits Addenda Code.
“ Only Read With 2 digits Addenda Code “ — read 2 digits Addenda Code and only read code with 2 digits Addenda Code.



Transmit Default “0”

The first byte of UPC-E is default to “0” .



Do Not Transmit “0”
【Pro CMD: 99911013】



Transmit “0”
【Pro CMD: 99911014】

Code Programming ON



Code Programming OFF



UPC-E Expand to UPC-A

“ Do Not Expand “ — keep original type and digits, do not expand.

“Expand to UPC-A “ — expand to UPC-A but keep code type.

“ Expand Message and Convert to UPC-A “ — expand code digits and convert code type.



Do Not Expand
【Pro CMD: 99911015】



Expand Message and Convert to UPC-A
【Pro CMD: 99911017】



Expand to UPC-A
【Pro CMD: 99911016】





Load Factory Default



Load UPC-A Factory Default
【Pro CMD: 99911100】

Code Programming ON



Code Programming OFF



Disable/Enable UPC-A



Enable UPC-A
【Pro CMD: 99911102】



Disable UPC-A
【Pro CMD: 99911101】



When the engine can not read UPC-A, please read “Enable UPC-A” and try again.

UPC-A Code ID



Code ID Setting
【Pro CMD: 99911115】

E xample

Example of setting UPC-A Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read UPC-A Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Check Digit

Code Programming ON



UPC-A is fixed 13 digits barcode and the last digit is check digit. Check digit is a value calculated from all digits. It is used for checking if the all 13 digits are right.



Code Programming OFF



Transmit Check

【Pro CMD: 99911104】



Do Not Transmit Check

【Pro CMD: 99911103】

Transmit Default “0”

The first byte of UPC-A is default to “0” .



Do Not Transmit “0”

【Pro CMD: 99911113】



Transmit “0”

【Pro CMD: 99911114】





2 Digits Addenda Code

2 Digits Addenda Code is the one to the right of an ordinary code.



Disable 2 Digits Addenda Code
【Pro CMD: 99911105】

Code Programming ON



Code Programming OFF



Only Read With 2 digits Addenda Code
【Pro CMD: 99911107】



Enable 2 Digits Addenda Code
【Pro CMD: 99911106】

5 Digits Addenda Code

5 Digits Addenda Code is the one to the right of an ordinary code.



Disable 5 Digits Addenda Code
【Pro CMD: 99911110】



Only Read With 5 digits Addenda Code
【Pro CMD: 99911112】



Enable 5 Digits Addenda Code
【Pro CMD: 99911111】



“ Enable 2 Digits Addenda Code ” — read an ordinary code and 2 digits Addenda Code.
“ Disable 2 Digits Addenda Code ” — read an ordinary code only, and ignore 2 digits Addenda Code.
“ Only Read With 2 digits Addenda Code ” — read 2 digits Addenda Code and only read code with 2 digits Addenda Code.



Load Factory Default



Load Interleaved 2 of 5 Factory Default
【Pro CMD: 99911200】

Code Programming ON



Code Programming OFF



Disable/Enable Interleaved 2 of 5



Enable Interleaved 2 of 5
【Pro CMD: 99911202】



Disable Interleaved 2 of 5
【Pro CMD: 99911201】



When the engine can not read Interleaved 2 of 5, please read “Enable Interleaved 2 of 5” and try again

Interleaved 2 of 5 Code ID



Code ID Setting
【Pro CMD: 99911210】

E
Example

Example of setting Interleaved 2 of 5 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read Interleaved 2 of 5 Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Check Digit

Interleaved 2 of 5 may include Check Digit (not compulsory) following its barcode messages. If included, it could be the last digit. It verifies the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check digit.

» “Check, Do Not Transmit Check Digit” means to read and check. If verification is successful, transmit barcode message; if not, engine sends an error beep.

» “Check, Transmit All” means to read and check. If verification is successful, transmit all messages; if not, engine sends an error beep.

Code Programming ON



Code Programming OFF



“NO Check, Transmit All”
【Pro CMD: 99911203】



Check, Do Not Transmit Check Digit
【Pro CMD: 99911204】



Check, Transmit All
【Pro CMD: 99911205】



When “Check, Do Not Transmit Check digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.: Reading a 4-byte (include check Digit) Interleaved 2 of 5 with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check digit” enabled leads to error beep.



Select Message Length

Code Programming ON



It is used to program the valid reading length of Interleaved 2 of 5. The engine will send an error beep, if the decoded data length does not match the valid length.

Code Programming OFF



Interleaved 2 of 5 Message Length is defined by “Min. Message Length” and “Max. Message Length”



Min Message Length
【Pro CMD: 99911206】



Max Message Length
【Pro CMD: 99911207】



1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of Interleaved 2 of 5 as 8 bytes, and Max Message length as 12 bytes, read these programming codes:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code Appendix (Pxxx)
4. “Save Programming”, see Digit Code Appendix (Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”





ITF-6 is a fixed length 6 bytes Interleaved 2 of 5 barcode with check digit.
When enabled, ITF-6 precedes 6-byte Interleaved 2 of 5 barcode.

Code Programming ON



Code Programming OFF



Load ITF-6 Factory Default
【Pro CMD: 99911300】



Enable ITF-6, Do Not Transmit Check Digit
【Pro CMD: 99911301】



Disable ITF-6 User Selection
【Pro CMD: 99911302】



Enable ITF-6, Transmit Check Digit
【Pro CMD: 99911303】



For instance, when ITF-6 is enabled and Interleaved 2 of 5 is disabled, the ITF-6 and 6 bytes Interleaved 2 of 5 with check digit can be read, but other Interleaved 2 of 5 can not.

ITF-6 Code ID



Code ID Setting
【Pro CMD: 99911304】



- Example of setting ITF-6 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
 2. Read ITF-6 Code ID Setting barcode.
 3. Read Following Barcodes: “7” , and “0”
 4. Read Save barcode
 5. Read Disable Code Programming barcode.





ITF-14 is a fixed length of 14 bytes Interleaved 2 of 5 barcode with Check digit. By factory default, it is disabled.

When enabled, ITF-14 precedes 14-byte Interleaved 2 of 5 barcode.

Code Programming ON



Code Programming OFF



Load ITF-14 Factory Default
【Pro CMD: 99911400】



Disable ITF-14
【Pro CMD: 99911401】



Enable ITF-14, Do Not Transmit Check Digit
【Pro CMD: 99911402】



Enable ITF-14, Transmit Check Digit
【Pro CMD: 99911403】



For instance, when ITF-14 is enabled and Interleaved 2 of 5 is disabled, the ITF-14 and 14 bytes Interleaved 2 of 5 with check digit can be read, but other Interleaved 2 of 5 can not. If the programming of ITF-14 violates the one of Deutsche 14, ITF-14 precedes Deutsche 14.

ITF-14 Code ID



Code ID Setting
【Pro CMD: 99911404】

Example

- Example of setting ITF-14 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
 2. Read ITF-14 Code ID Setting barcode.
 3. Read Following Barcodes: “7” , and “0”
 4. Read Save barcode
 5. Read Disable Code Programming barcode.





Load Factory Default



Load Deutsche14 Factory Default
【Pro CMD: 99911500】

Code Programming ON



Code Programming OFF



Disable/Enable Deutsche14



Enable Deutsche14, Do Not Transmit Check Digit
【Pro CMD: 99911502】



Disable Deutsche14
【Pro CMD: 99911501】



Enable Deutsche14, Transmit Check Digit
【Pro CMD: 99911503】



When the engine can not read Deutsche14, please read “Enable Deutsche14” and try again. If Deutsche 14 and ITF-14 are enabled at the same time, the engine may mis-decode or have chaos in programming. So it is better to disable ITF-14 if not used.

Deutsche14 Code ID



Code ID Setting
【Pro CMD: 99911504】

E
Example

Example of setting Deutsche14 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read Deutsche14 Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.



Load Factory Default



Load Deutshe12 Factory Default
【Pro CMD: 99911600】

Code Programming ON



Code Programming OFF



Disable/Enable Deutshe12



Enable Deutshe12, Do Not Transmit Check Digit
【Pro CMD: 99911602】



Disable Deutshe12
【Pro CMD: 99911601】



Enable Deutshe12, Transmit Check Digit
【Pro CMD: 99911603】



When the engine can not read Deutshe12, please read “Enable Deutshe12” and try again. If Deutsche 12 and ITF-12 are enabled at the same time, the engine may mis-decode or has chaos in programming. So it is better to disable ITF-14 if not used.

Deutshe12 Code ID



Code ID Setting
【Pro CMD: 99911604】

E
Example

Example of setting Deutshe12 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read Deutshe12 Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Load Factory Default



Load COOP25 Factory Default

【Pro CMD: 99911700】

Code Programming ON



Code Programming OFF



Enable/ Disable COOP25



Enable COOP25
【Pro CMD: 99911702】



Disable COOP25
【Pro CMD: 99911701】



When the engine can not read COOP25, please read “Enable COOP25” and try again.

COOP25 (Japanese Matrix 2 of 5) Code ID



Code ID Setting
【Pro CMD: 99911710】

E
example

Example of setting COOP25 (Japanese Matrix 2 of 5) Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read COOP25 (Japanese Matrix 2 of 5) Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Check Digit

COOP25 may include Check Digit (not compulsory) following its barcode messages. If included, it may be the last digit. It verifies the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.

» “Check, Do Not Transmit Check Digit” means to read and check. If verification is successful, transmits barcode message; if not, engine sends an error beep.

» “Check, Transmit All” means to read and check. If verification is successful, transmits all messages; if not, engine sends an error beep.

Code Programming ON



Code Programming OFF



NO Check, Transmit All
【Pro CMD: 99911703】



Check, Transmit All
【Pro CMD: 99911704】



Check, Do Not Transmit Check Digit
【Pro CMD: 99911705】



When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.: Reading a 4-byte (include Check Digit) COOP25 with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.



Select Message Length

It is used to program the valid reading length of COOP25. The engine will send an error beep, if the decoded data length does not match the valid length. COOP25 Message Length is defined by “Min. Message Length” and “Max. Message Length” .

Code Programming ON



Code Programming OFF



Min Message Length
【Pro CMD: 99911706】



Max Message Length
【Pro CMD: 99911707】



 ID bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of COOP25 to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8” , see Digit Code (Appendix Pxxx)
4. “Save Programming” , see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”





Load Factory Default



Load Matrix 2 of 5 Factory Default

【Pro CMD: 99912000】

Code Programming ON



Code Programming OFF



Enable/ Disable Matrix 2 of 5



Enable Matrix 2 of 5
【Pro CMD: 99912002】



Disable Matrix 2 of 5
【Pro CMD: 99912001】



When the engine can not read Matrix 2 of 5, please read “Enable Matrix 2 of 5” and try again.

Matrix 2 of 5 Code ID



Code ID Setting
【Pro CMD: 99912010】

E
example

Example of setting Matrix 2 of 5 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read Matrix 2 of 5 Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Check Digit

Matrix 2 of 5 may include Check Digit (not compulsory) following its barcode messages. If included, it may be the last digit. It verifies the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.

» “Check, Do Not Transmit Check Digit” means to read and check. If verification is successful, transmits barcode message; if not, engine sends an error beep.

» “Check, Transmit All” means to read and check. If verification is successful, transmits all messages; if not, engine sends an error beep.

Code Programming ON



Code Programming OFF



NO Check, Transmit All
【Pro CMD: 99912003】



Check, Transmit All
【Pro CMD: 99912004】



Check, Do Not Transmit Check Digit
【Pro CMD: 99912005】



When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.: Reading a 4-byte (include Check Digit) Matrix 2 of 5 with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.





Select Message Length

It is used to program the valid reading length of Matrix 2 of 5. The engine will send an error beep, if the decoded data length does not match the valid length. Matrix 2 of 5 Message Length is defined by “Min. Message Length” and “Max. Message Length” .

Code Programming ON



Code Programming OFF



Min Message Length
【Pro CMD: 99912006】



Max Message Length
【Pro CMD: 99912007】



ID bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of Matrix 2 of 5 to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8” , see Digit Code (Appendix Pxxx)
4. “Save Programming” , see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”





Load Factory Default



Load Industrial 25 Factory Default

【Pro CMD: 99912100】

Code Programming ON



Code Programming OFF



Enable/ Disable Industrial 25



Enable Industrial 25
【Pro CMD: 99912102】



Disable Industrial 25
【Pro CMD: 99912101】



When the engine can not read Industrial 25, please read “Enable Industrial 25” and try again.

Industrial 25 Code ID



Code ID Setting
【Pro CMD: 99912110】

Example

Example of setting Industrial 25 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read Industrial 25 Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Check Digit

Industrial 25 may include Check Digit (not compulsory) following its barcode messages. If included, it may be the last digit. It verifies the barcode message.

- » “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.
- » “Check, Do Not Transmit Check Digit” means to read and check. If verification is successful, transmits barcode message; if not, engine sends an error beep.
- » “Check, Transmit All” means to read and check. If verification is successful, transmits all messages; if not, engine sends an error beep.

Code Programming ON



Code Programming OFF



NO Check, Transmit All
【Pro CMD: 99912103】



Check, Transmit All
【Pro CMD: 99912104】



Check, Do Not Transmit Check Digit
【Pro CMD: 99912105】



When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.: Reading a 4-byte (include Check Digit) Industrial 25 with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.



Select Message Length

It is used to program the valid reading length of Industrial 25. The engine will send an error beep, if the decoded data length does not match the valid length.

Industrial 25 Message Length is defined by “Min. Message Length” and “Max. Message Length” .

Code Programming ON



Code Programming OFF



Min Message Length
【Pro CMD: 99912106】



Max Message Length
【Pro CMD: 99912107】



 ID bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of Industrial 25 to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8” , see Digit Code (Appendix Pxxx)
4. “Save Programming” , see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”





Load Factory Default



Load Standard 25 Factory Default

【Pro CMD: 99912200】

Code Programming ON



Code Programming OFF



Enable/ Disable Standard 25



Enable Standard 25

【Pro CMD: 99912202】



Disable Standard 25

【Pro CMD: 99912201】



When the engine can not read Standard 25, please read “Enable Standard 25” and try again.

Standard 25 Code ID



Code ID Setting

【Pro CMD: 99912210】

Example

Example of setting Standard 25 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read Standard 25 Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.



Check Digit

Standard 25 may include Check Digit (not compulsory) following its barcode messages. If included, it may be the last digit. It verifies the barcode message.

- » “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.
- » “Check, Do Not Transmit Check Digit” means to read and check. If verification is successful, transmits barcode message; if not, engine sends an error beep.
- » “Check, Transmit All” means to read and check. If verification is successful, transmits all messages; if not, engine sends an error beep.

Code Programming ON



Code Programming OFF



NO Check, Transmit All
【Pro CMD: 99912203】



Check, Transmit All
【Pro CMD: 99912204】



Check, Do Not Transmit Check Digit
【Pro CMD: 99912205】



When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.

E.g.: Reading a 4-byte (include Check Digit) Standard 25 with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.



Select Message Length

It is used to program the valid reading length of Standard 25. The engine will send an error beep, if the decoded data length does not match the valid length.

Standard 25 Message Length is defined by “Min. Message Length” and “Max. Message Length” .

Code Programming ON



Code Programming OFF



Min Message Length
【Pro CMD: 99912206】



Max Message Length
【Pro CMD: 99912207】



 ID bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of Standard 25 to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8” , see Digit Code (Appendix Pxxx)
4. “Save Programming” , see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”



Load Factory Default



Load Code 39 Factory Default
【Pro CMD: 99912400】

Code Programming ON



Code Programming OFF



Enable/Disable Code 39



Enable Code 39
【Pro CMD: 99912402】



Disable Code 39
【Pro CMD: 99912401】



When the engine can not read Code 39, please read “Enable Code 39” and try again

Code 39 Code ID



Code ID Setting
【Pro CMD: 99912414】

E
example

- Example of setting Code 39 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
 2. Read Code 39 Code ID Setting barcode.
 3. Read Following Barcodes: “7” , and “0”
 4. Read Save barcode
 5. Read Disable Code Programming barcode.





Check Digit

Code 39 may include Check Digit (not compulsory) following its barcode message. It verifies the barcode message.

- » "NO Check, Transmit All" means to read without check and transmit all bytes including barcode message and Check Digit.
- » "Check, Do Not Transmit Check Digit" means to read and check. If verification is successful, transmits barcode message; if not, engine sends an error beep.
- » "Check, Transmit All" means to read and check. If verification is successful, transmits all messages; if not, engine sends an error beep.

Code Programming ON



Code Programming OFF



NO Check, Transmit All
【Pro CMD: 99912403】



Check, Transmit All
【Pro CMD: 99912405】



Check, Do not transmit Check Digit
【Pro CMD: 99912404】



When "Check, Do not Transmit Check digit" is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.: Reading a 4-byte (include check byte) Code 39 with the Min Message Length being 4 bytes and "Check, Do not transmit Check Digit" enabled leads to error beep.



Transmit Start & Stop Character

Code 39 has one "*" before and another after digits as Start & Stop Character. Transmission of "*" can be selected.

Code Programming ON



Code Programming OFF



Transmit Both "*"
【Pro CMD: 99912407】



Transmit Neither "*"
【Pro CMD: 99912406】

Decode ASCII

Code 39 can include full ASCII characters. For factory default, the engine only decodes part of them. Read "Enable Full ASCII decode" to decode full ASCII characters.



Partial ASCII Decode
【Pro CMD: 99912410】



Full ASCII Decode
【Pro CMD: 99912411】





Select Message Length

Code 39 Message Length is defined by “Min. Message Length” and “Max. Message Length”. It is used to program the valid reading length of Code 39. The engine will send an error beep, if the decoded data length does not match the valid length.

Code Programming ON



Code Programming OFF



Min Message Length
【Pro CMD: 99912412】



Max Message Length
【Pro CMD: 99912413】



1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of Code 39 to 8 bytes, and Max Message Length to 12 bytes, read these programming codes:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”



Load Factory Default



Load Codabar Factory Default
【Pro CMD: 99912500】

Code Programming ON



Code Programming OFF



Enable/Disable Codabar



Enable Codabar
【Pro CMD: 99912502】



Disable Codabar
【Pro CMD: 99912501】



When the engine can not read Codabar, please read “Enable Codabar” and try again.

Codabar Code ID



Code ID Setting
【Pro CMD: 99912516】

E xample

Example of setting Codabar Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read Codabar Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Check Digit

Codabar may include Check Digit (not compulsory) following its barcode message. It verifies the barcode message.

- » "NO Check, Transmit All" means to read without check and transmit all bytes including barcode message and Check Digit.
- » "Check, Do Not Transmit Check Digit" means to read and check. If verification is successful, transmits barcode message; if not, engine sends an error beep.
- » "Check, Transmit All" means to read and check. If verification is successful, transmits all messages; if not, engine sends an error beep.

Code Programming ON



Code Programming OFF



NO Check, Transmit All
【Pro CMD: 99912503】



Check, Transmit All
【Pro CMD: 99912504】



Check, Do not transmit Check Digit
【Pro CMD: 99912505】



When "Check, Do not Transmit Check digit" is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.: Reading a 4-byte (include check byte) Codabar with the Min Message Length being 4 bytes and "Check, Do not transmit Check Digit" enabled leads to error beep.



Transmit Start & Stop Character

Code Programming ON



Code Programming OFF



Do Not Transmit Both Start & Stop Character
【Pro CMD: 99912506】



Transmit Both Start & Stop Character
【Pro CMD: 99912507】



Use ABCD/ABCD As Start & Stop Character
【Pro CMD: 99912510】



Use ABCD/TN*E As Start & Stop Character
【Pro CMD: 99912511】



Use abcd/abcd As Start & Stop Character
【Pro CMD: 99912512】



Use abcd/tn*e As Start & Stop Character
【Pro CMD: 99912513】





Select Message Length

Codabar Message Length is defined by “Min. Message Length” and “Max. Message Length”. It is used to program the valid reading length of Codabar. The engine will send an error beep, if the decoded data length does not match the valid length.

Code Programming ON



Code Programming OFF



Min Message Length
【Pro CMD: 99912514】



Max Message Length
【Pro CMD: 99912515】



1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of Codabar to 8 bytes, and Max Message Length to 12 bytes, read these programming codes:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”



Load Factory Default



Load Code 93 Factory Default
【Pro CMD: 99912600】

Code Programming ON



Code Programming OFF



Enable /Disable Code 93



Enable Code 93
【Pro CMD: 99912602】



Disable Code 93
【Pro CMD: 99912601】



When the engine can not read Code 93, please read “Enable Code 93” and try again.

Code 93 Code ID



Code ID Setting
【Pro CMD: 99912610】

E xample

Example of setting Code 93 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read Code 93 Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Check Digit

Code 93 may include Check Digits (not compulsory) following its barcode message. If included, they are the last two digits. They verify the barcode message.

- » "NO Check, Transmit All" means to read without check and transmit all bytes including barcode message and Check Digit.
- » "Check, Do Not Transmit Check Digit" means to read and check. If verification is successful, transmits barcode message; if not, engine sends an error beep.
- » "Check, Transmit All" means to read and check. If verification is successful, transmits all messages; if not, engine sends an error beep.



NO Check, Transmit All
【Pro CMD: 99912603】



Check, Do not transmit Check Digit
【Pro CMD: 99912604】



Check, Transmit All
【Pro CMD: 99912605】

Code Programming ON



Code Programming OFF



When "Check, Do not Transmit Check digit" is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.

E.g.: Reading a 4-byte (include check byte) Code 93 with the Min Message Length being 4 bytes and "Check, Do not transmit Check Digit" enabled leads to error beep.



Select Message Length

It is used to program the valid reading length of Code 93. The engine will send an error beep, if the decoded data length does not match the valid length.

Code 93 Message Length is defined by “Min. Message Length” and “Max. Message Length .”

Code Programming ON



Code Programming OFF



Min Message Length

【Pro CMD: 99912606】



Max Message Length

【Pro CMD: 99912607】



1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of Code 93 to 8 bytes and Max Message Length to 12 bytes, read these programming codes:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8” , see Digit Code (Appendix Pxxx)
4. “Save Programming” , see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”





Load Factory Default



Load Code 11 Factory Default

【Pro CMD: 99912700】

Code Programming ON



Code Programming OFF



Enable/ Disable Code 11



Enable Code 11

【Pro CMD: 99912702】



Disable Code 11

【Pro CMD: 99912701】



When the engine can not read Code 11, please read “Enable Code 11” and try again.

Code 11 Code ID



Code ID Setting

【Pro CMD: 99912715】

Example

Example of setting Code 11 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read Code 11 Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Check Digit

Code 11 may include Check Digit (not compulsory) following its barcode messages. If included, it may be the last one or two digits. It verifies the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.

Code Programming ON



Code Programming OFF



No Check

【Pro CMD: 99912703】



Single Check Digit, MOD11

【Pro CMD: 99912704】



Double Check Digits, MOD11/MOD11

【Pro CMD: 99912705】



Double Check Digits, MOD11/MOD9

【Pro CMD: 99912706】



Single Check Digit MOD11 (Len \leq 10)

Double Check Digits MOD11/
MOD11 (Len > 10)

【Pro CMD: 99912707】



Single Check Digit MOD11 (Len \leq 10)

Double Check Digits MOD11/
MOD9 (Len > 10)

【Pro CMD: 99912710】



Do not transmit Check Digit

【Pro CMD: 99912711】



Transmit Check Digit

【Pro CMD: 99912712】



When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.: Reading a 4-byte (include Check Digit) Code 11 with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.



Select Message Length

It is used to program the valid reading length of Code 11. The engine will send an error beep, if the decoded data length does not match the valid length.

Code 11 Message Length is defined by “Min. Message Length” and “Max. Message Length” .

Code Programming ON



Code Programming OFF



Min Message Length
【Pro CMD: 99912713】



Max Message Length
【Pro CMD: 99912714】



ID bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of Code 11 to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8” , see Digit Code (Appendix Pxxx)
4. “Save Programming” , see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”





Load Factory Default



Load Plessey Factory Default

【Pro CMD: 99913000】

Code Programming ON



Code Programming OFF



Enable/ Disable Plessey



Enable Plessey

【Pro CMD: 99913002】



Disable Plessey

【Pro CMD: 99913001】



When the engine can not read Plessey, please read “Enable Plessey” and try again.

Plessey Code ID



Code ID Setting

【Pro CMD: 99913010】

E
example

Example of setting Plessey Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read Plessey Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Check Digit

Plessey may include Check Digits (not compulsory) following its barcode messages. If included, they are the last two digit. They verify the barcode message.

Code Programming ON



Code Programming OFF



» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.

» “Check, Do Not Transmit Check Digit” means to read and check. If verification is successful, transmits barcode message; if not, engine sends an error beep.

» “Check, Transmit All” means to read and check. If verification is successful, transmits all messages; if not, engine sends an error beep.



NO Check, Transmit All
【Pro CMD: 99913003】



Check, Transmit All
【Pro CMD: 99913004】



Check, Do not transmit Check Digit
【Pro CMD: 99913005】



When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.

E.g.: Reading a 4-byte (include Check Digit) Plessey with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.



Select Message Length

It is used to program the valid reading length of Plessey. The engine will send an error beep, if the decoded data length does not match the valid length.

Plessey Message Length is defined by “Min. Message Length” and “Max. Message Length” .

Code Programming ON



Code Programming OFF



Min Message Length
【Pro CMD: 99913006】



Max Message Length
【Pro CMD: 99913007】



ID bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of Plessey to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8” , see Digit Code (Appendix Pxxx)
4. “Save Programming” , see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”





Load Factory Default



Load MSI-Plessey Factory Default

【Pro CMD: 99913100】

Code Programming ON



Code Programming OFF



Enable/ Disable MSI-Plessey



Enable MSI-Plessey
【Pro CMD: 99913102】



Disable MSI-Plessey
【Pro CMD: 99913101】



When the engine can not read MSI-Plessey, please read “Enable MSI-Plessey” and try again.

MSI-Plessey Code ID



Code ID Setting
【Pro CMD: 99913113】

E
example

Example of setting MSI-Plessey Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read MSI-Plessey Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Check Digit

MSI-Plessey may include Check Digit (not compulsory) following its barcode messages. If included, it may be the last one or two digits. It verifies the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.

Code Programming ON



Code Programming OFF



No Check

【Pro CMD: 99913103】



Single Check Digit, MOD10

【Pro CMD: 99913104】



Double Check Digits, MOD10/MOD10

【Pro CMD: 99913105】



Double Check Digits, MOD10/MOD11

【Pro CMD: 99913106】



Do not transmit Check Digit

【Pro CMD: 99913107】



Transmit Check Digit

【Pro CMD: 99913110】



When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.: Reading a 4-byte (include Check Digit) MSI-Plessey with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.



Select Message Length

MSI-Plessey Message Length is defined by “Min. Message Length” and “Max. Message Length”. It is used to program the valid reading length of MSI-Plessey. The engine will send an error beep, if the decoded data length does not match the valid length.

Code Programming ON



Code Programming OFF



Min Message Length
【Pro CMD: 99913111】



Max Message Length
【Pro CMD: 99913112】



 ID bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the engine will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the engine will only support barcodes of the length.

Example

To set Min Message Length of MSI-Plessey to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”



Load Factory Default



Load GS1 Databar Factory Default

【Pro CMD: 99913200】

Code Programming ON



Code Programming OFF



Enable/ Disable GS1 Databar



Enable GS1 Databar

【Pro CMD: 99913202】



Disable GS1 Databar

【Pro CMD: 99913201】



When the engine can not read GS1 Databar, please read “Enable GS1 Databar” and try again.

GS1 Databar Code ID



Code ID Setting

【Pro CMD: 99913203】

E xample

Example of setting GS1 Databar Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read GS1 Databar Code ID Setting barcode.
3. Read Following Barcodes: “7” , and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.





Appendix

Factory Default List

Parameters	Factory Default	Remark
General Programming		
Code Programming	On	
Send Pro Code Value	Off	
Working Mode	Sensor Mode	
Reading a Barcode Time Length	3s	Range: 0-15s, 0 is infinite time.
Interval Length	1s	Range: 0-7.5s
Sensitivity	High Sensitivity	Enabled in Sensor Mode
Security Level	Level 1	
Beeper	Medium Frequency & Loud Volume, 150ms sound length	Beeper for a successful reading
Reading Same Barcode	Off	Enabled in Auto Mode
Restart Timer After a valid Reading	On	Enabled in Auto Mode
Communication Programming		
Baud Rate	9600	
Serial Port Check	No Check	
Stop Digit	1 Digit	Fixed
Flow Controlling	No Flow Controlling	Fixed
Data Bit	8 Bit	
USB HID-KBW	On	
Virtual Keyboard Layout	No. 1, American	
Character Delay	0ms	
Character Conversion	Constant	
Nums Lock	Off	
Data Format Programming		
Prefix Sequences	CodeID+User Prefix+AIMID	CodeID+Prefix+(AIMID+Data) +Suffix+Terminal
AIMID	Off	]Cm Mark
CodeID	Off	One or two Digit, Capital or Small Letter
User Prefix	Off	No more than 11 digits
User Suffix	Off	No more than 11 digits
Terminal	Off	No more than 7 digits



Parameters	Factory Default	Remark
Symbol		
Code 128		
Enable	On	
Max Message Length	255	
Min Message Length	1	
UCC/EAN-128		
Enable	On	
Max Message Length	255	
Min Message Length	1	
AIM 128		
Enable	Off	
Min Message Length	1	
EAN-8		
Enable	On	
Send Check Digit	On	
Enable 2 Digits Addenda Code	Off	
Enable 5 Digits Addenda Code	Off	
Only Read With 2 digits Addenda Code	Off	
Only Read With 5 digits Addenda Code	Off	
Expand to EAN-13	Off	
Expand and Change Type to EAN-13	Off	
EAN-13		
Enable	On	
Send Check Digit	On	
Enable 2 Digits Addenda Code	Off	
Enable 5 Digits Addenda Code	Off	
Only Read With 2 digits Addenda Code	Off	
Only Read With 5 digits Addenda Code	Off	





ISSN		
Enable	Off	
ISBN		
Enable	Off	
Use 10 Digits	Off	
UPC-E		
Enable	On	
Send Check Digit	On	
Enable 2 Digits Addenda Code	Off	
Enable 5 Digits Addenda Code	Off	
Only Read With 2 digits Addenda Code	Off	
Only Read With 5 digits Addenda Code	Off	
Expand to UPC-A	Off	
Expand and Change Type to UPC-A	Off	
Send Default "0"	Off	
UPC-A		
Enable	On	
Send Check Digit	On	
Enable 2 Digits Addenda Code	Off	
Enable 5 Digits Addenda Code	Off	
Only Read With 2 digits Addenda Code	Off	
Only Read With 5 digits Addenda Code	Off	
Send Default "0"	Off	
Interleaved 2 of 5		
Enable	On	
Check	On	
Send Check Digit	Off	
Max Message Length	255	
Min Message Length	6	No less than 4
ITF-6		
Enable	Off	
Send Check Digit	On	
ITF-14		
Enable	Off	
Send Check Digit	On	





Deutsche 14		
Enable	Off	
Send Check Digit	On	
Deutsche 12		
Enable	Off	
Send Check Digit	On	
COOP 25(Japanese Matrix 2 of 5)		
Enable	Off	
Check	Off	
Send Check Digit	Off	
Max Message Length	255	
Min Message Length	6	No less than 4
Matrix 2 of 5(European Matrix 2 of 5)		
Enable	On	
Check	Off	
Send Check Digit	Off	
Max Message Length	255	
Min Message Length	6	No less than 4
Industrial 25		
Enable	On	
Check	Off	
Send Check Digit	Off	
Max Message Length	255	
Min Message Length	6	No less than 4
Standard 25		
Enable	On	IATA 25
Check	Off	
Send Check Digit	Off	
Max Message Length	255	
Min Message Length	6	No less than 4
Code 39		
Enable	On	
Check	Off	
Send Check Digit	Off	
Send Start & Stop Character	On	





Appendix

Factory Default List

Support Full ASCII	On	
Max Message Length	255	
Min Message Length	4	No less than 4 (including Start & Stop Character)
Codabar		
Enable	On	
Check	Off	
Send Check Digit	Off	
Send Start & Stop Character	On	
ABCD/ABCD as Start & Stop Character	On	Choose 1 In 4
ABCD/TN*E as Start & Stop Character	Off	
abcd/abcd as Start & Stop Character	Off	
abcd/tn*e as Start & Stop Character	Off	
Max Message Length	255	
Min Message Length	4	No less than 4
Code 93		
Enable	On	
Check	On	
Send Check Digit	Off	
Max Message Length	255	
Min Message Length	2	No less than 1
Code 11		
Enable	Off	
Send Check Digit	Off	
Check	On	
1 Digit, MOD11 Check	On	
2 Digits, MOD11/MOD11 Check	Off	
2 Digits, MOD11/MOD9 Check	Off	
Auto 2 Digits, MOD11/MOD11	Off	
Auto 2 Digits, MOD11/MOD9	Off	
Max Message Length	255	
Min Message Length	4	No less than 4
Plessey		
Enable	Off	
Check	On	
Send Check Digit	Off	





Max Message Length	255	
Min Message Length	4	No less than 1
<i>MSI-Plessey</i>		
Enable	Off	
Send Check Digit	Off	
Check	On	
1 Digit, MOD10 Check	Off	
2 Digits, MOD10/MOD10 Check	Off	
2 Digits, MOD10/MOD11 Check	Off	
Max Message Length	255	
Min Message Length	4	No less than 1
<i>GSI Databar</i>		
Enable	On	
Max Message Length	255	
Min Message Length	1	





Symbol	AIM ID	Possible AIM ID Modifiers(m)
Code 128	]C0	
UCC/EAN-128	]C1	
AIM 128	]C2	
ISBT 128	]C4	
EAN-8	]E4	
EAN-13	]E0	
EAN-13 with Addon	]E3	
ISSN	]X0	
ISBN	]X0	
UPC-E	]E0	
UPC-E with Addon	]E3	
UPC-A	]E0	
UPC-A with Addon	]E3	
Interleaved 2 of 5	]Im	0,1,3
ITF-6	]Im	1,3
ITF-14	]Im	1,3
Deutsche 14	]X0	
Deutsche 12	]X0	
COOP 25 (Japanese Matrix 2 of 5)	]X0	
Matrix 2 of 5(European Matrix 2 of 5)	]X0	
Industrial 25	]S0	
Standard 25	]R0	
Code 39	]Am	0,1,3,4,5,7
Codabar	]Fm	0,2,4
Code 93	]G0	
Code 11	]Hm	0,1,3
Plessey	]P0	
MSI-Plessey	]Mm	0,1
GSI Databar	]e0	

Reference:

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





Symbol	Code ID
Code 128	j
UCC/EAN-128	u
AIM 128	f
ISBT 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
COOP 25 (Japanese Matrix 2 of 5)	o
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
GS1 Databar	R





It is must to read save after reading digit code.

Code Programming ON



Code Programming OFF



0

【Pro CMD: 99900000】



4

【Pro CMD: 99900004】



1

【Pro CMD: 99900001】



5

【Pro CMD: 99900005】



2

【Pro CMD: 99900002】



6

【Pro CMD: 99900006】



3

【Pro CMD: 99900003】



7

【Pro CMD: 99900007】





Code Programming ON



Code Programming OFF



8

【Pro CMD: 99900010】



C

【Pro CMD: 99900014】



9

【Pro CMD: 99900011】



D

【Pro CMD: 99900015】



A

【Pro CMD: 99900012】



E

【Pro CMD: 99900016】



B

【Pro CMD: 99900013】



F

【Pro CMD: 99900017】





In order to save the received data “Save” has to be read after data transition completed. If error occurs when reading data, the wrong data can be deleted and the setting up can be done again..

Eg, after a program code is received then ‘1 2 3’ in order is received, if then read “Abort One Data of Current Setting” the “3” will be deleted; if read “Abort One String of Current Setting” the ‘123’ will be deleted; if read “Abort Current Setting” both the program code and ‘123’ will be deleted, the device will be on status of “initiating program code” .

Code Programming ON



Code Programming OFF



Save

【Pro CMD: 99900020】



Abort One Data of Current Setting

【Pro CMD: 99900021】



Abort Current Setting

【Pro CMD: 99900023】



Abort All String of Current Setting

【Pro CMD: 99900022】

