DSM0400

PRODUCT REFERENCE GUIDE

Fixed Mount Area Imager
Bar Code Reader

DATALOGIC

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Patents

See www.patents.datalogic.com for patent list.

This manual refers to software version 2.2.1.3 and later.

TABLE OF CONTENTS

CHAPTER 1
INTRODUCTION

ABOUT THE SCANNER

With rich feature sets and extensive model options, the DSM0400 product series from Datalogic is a fully self-contained standard range 2D bar code scanning module for use in self-service kiosks or other semi-automated equipment requiring the ability to read a bar code. It is intended to be an easy integration by system designers with little expertise in scanning technology, with RS232 or USB (COM, Composite, Keyboard, OEM) possible interfaces. DSM0400 uses the latest and fastest imaging technology and offers Datalogic's Green Spot for good read feedback.

The scanning technology is essentially the same as the HALOGEN™ family SCAN ENGINEs area imagers, with Datalogic decoding platform and some enhancements for presentation reading and improved motion tolerance. The enclosure is designed for ease of integration, is sealed IP54 grade for cleaning, and is constructed of a solvent- and disinfectant-tolerant resin. DSM0400 represents the premium level of data collection equipment for general purpose applications, retail and also light industrial environments.

USING THE DSM0400

To read a symbol or capture an image, simply aim the reader and trigger the scanner, using the button on top or a trigger command through the communication interface. The DSM0400 is a powerful omni-directional reader, so the orientation of the symbol is not important. Datalogic's exclusive patented 'Green Spot' for good-read feedback helps to improve productivity in noisy environments or in situations where silence is required.

The DSM0400 reliably decodes all standard 1D (linear) and 2D bar codes, including DataBar™ codes (Omnidirectional, Expanded, Stacked), Postal Codes (China Post). The data stream - acquired from decoding a symbol - is rapidly sent to the host. The reader is immediately available to read another symbol.

ABOUT THIS MANUAL

This Product Reference Guide (PRG) is provided for users seeking advanced technical information, including connection, programming, maintenance and specifications. The Quick Reference Guide (QRG) and other publications associated with this product are can be downloaded for free on www.datalogic.com.

Typically, units are factory-programmed for the most common terminal and communications settings. If you need to modify any programmable settings, custom configuration can be accomplished by scanning the programming bar codes within this guide.

Programming can also be performed using the protocol “Decoded Engine Serial Protocol” (DESP) or using Datalogic Aladdin™ Configuration application, downloadable from the Datalogic website. This multi-platform utility programs allow device configuration using a PC. It communicates with the device using a serial or USB cable and can also create configuration barcodes to print.

OVERVIEW

Chapter 1, Introduction: provides a product overview, information about Technical Support and manual.

Chapter 2, Setup: presents information about unpacking and setting up the scanner, and interface configuration bar codes and details.

Chapter 3, Configuration Using Bar Codes: provides instructions and bar code labels for customizing your scanner. There are different sections for interface types, default factory settings, general features, data formatting and symbology specific features.

Chapter 4, References: provides details concerning programmable features.

Appendix a Technical Specifications: lists physical and performance characteristics, as well as environmental and regulatory specifications. It also provides standard cable-pinouts and descriptions of the functions and behaviors of the scanner’s LED and Speaker indicators.

Appendix B Sample Bar Codes: offers sample bar codes of several common symbologies.

Appendix C Keypad: includes numeric bar codes to be scanned for certain parameter settings.

Appendix D Reserved Characters lists reserved characters and their HEX value.

Manual Conventions

The following conventions are used in this document:

The symbols listed below are used in this manual to notify the reader of key issues or procedures that must be observed when using the reader:

Notes contain information necessary for properly diagnosing, repairing and operating the reader.

The CAUTION symbol advises you of actions that could damage equipment or property.

TECHNICAL SUPPORT

Support Through the Website

Datalogic provides several services as well as technical support through its website. Log on to (www.datalogic.com).

For quick access, from the home page click on the search icon, and type in the name of the product you're looking for. This allows you access to download Data Sheets, Manuals, Software & Utilities, and Drawings.

Hover over the Support & Service menu for access to Services and Technical Support.

Reseller Technical Support

An excellent source for technical assistance and information is an authorized Datalogic reseller. A reseller is acquainted with specific types of businesses, application software, and computer systems and can provide individualized assistance.

CHAPTER 2
SETUP

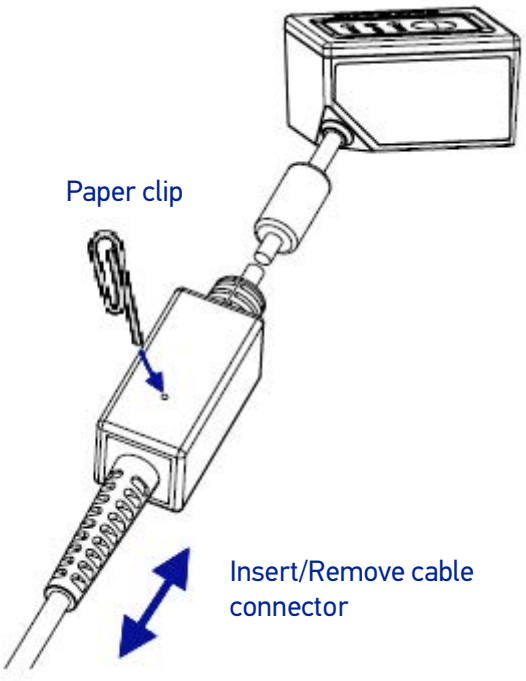
UNPACKING

Check carefully to ensure the device and any cables or accessories ordered are present and undamaged. If any damage occurred during shipment, contact Reseller Technical Support on page 3.

KEEP THE PACKAGING. Should the unit ever require service, it should be returned in its original shipping container.

SETTING UP THE SCANNER

Figure 1 Cable Connection/Disconnection to the Scanner (DSM049X only)



Follow the steps provided in this section to connect and get your scanner up and communicating with its host:

1. (DSM049X Models only) IMPORTANT: First of all, connect the Datalogic Interface Cable (not included - to be selected among the possible accessories) to the scanner as shown in Figure 1. To insert/remove the cable, insert a paper clip or similar object into the opening shown.

2.Connect the other end to the Host (see the next section "Connect Host Interface" on page 5, and Figure 2).

3.Modify Customizing Configuration Settings on page 12 (only if modifications are needed from factory settings).

Connect Host Interface

The scanner kit you ordered to match your interface should provide a compatible cable for your installation. If this is not so, contact Technical Support.

The scanner can communicate using the following interfaces:

RS-232 Serial Connection

Turn off power to the terminal/PC and connect the scanner to the terminal/PC serial port via the RS-232 cable as shown in Figure 2. If the terminal will not support POT (Power Off the Terminal) to supply scanner power, use the approved power supply (AC Adapter). Plug the AC Adapter barrel connector into the socket on the RS-232 cable connector and the AC Adapter plug into a standard power outlet as shown in Figure 2.

RS-232: The scanner can communicate with a standard RS-232 host.

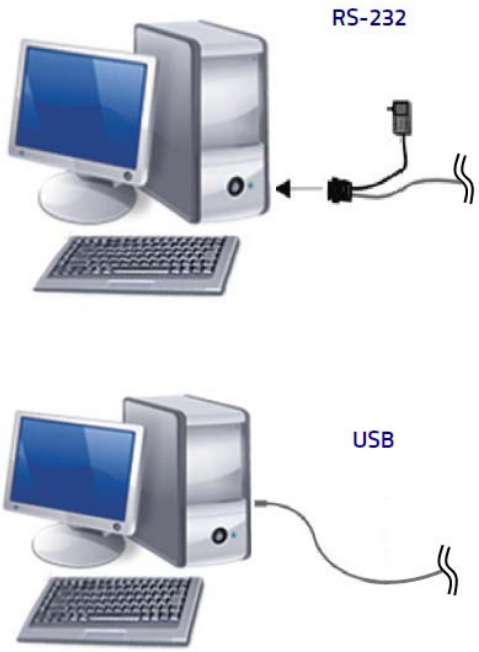
USB Connection

Connect the scanner to a USB port on the terminal/PC using the USB connector at the end of the cable.

USB : Select to communicate either by USB Composite (Keyboard + COM), USB OEM, USB COM STD, or USB Keyboard only interface types by scanning the appropriate interface type bar codes available in this manual. The default interface is USB Composite (Keyboard + COM).

NOTE: Specific cables are required for connection to different hosts. The connections illustrated in Figure 2 are examples only. Actual connectors may vary from those illustrated, but the steps to connect the scanner remain the same.

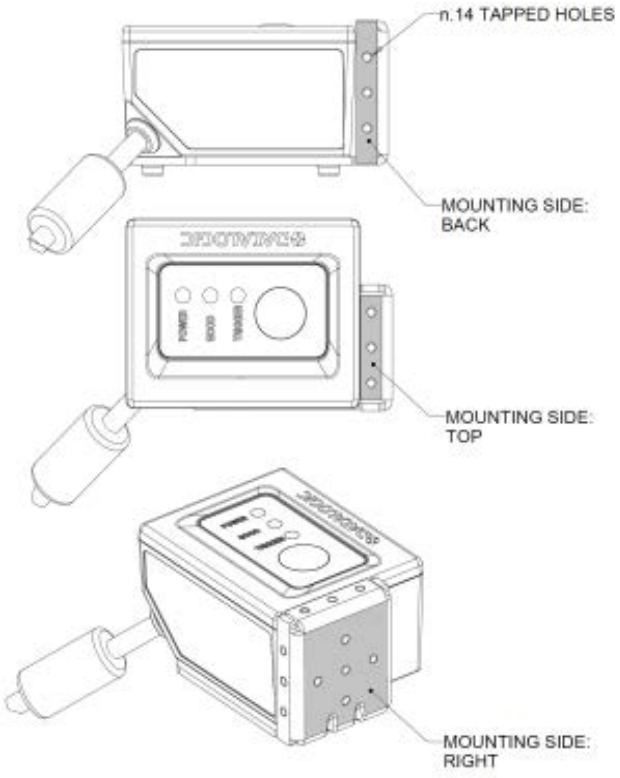
Figure 2 - Connection to Host Interface

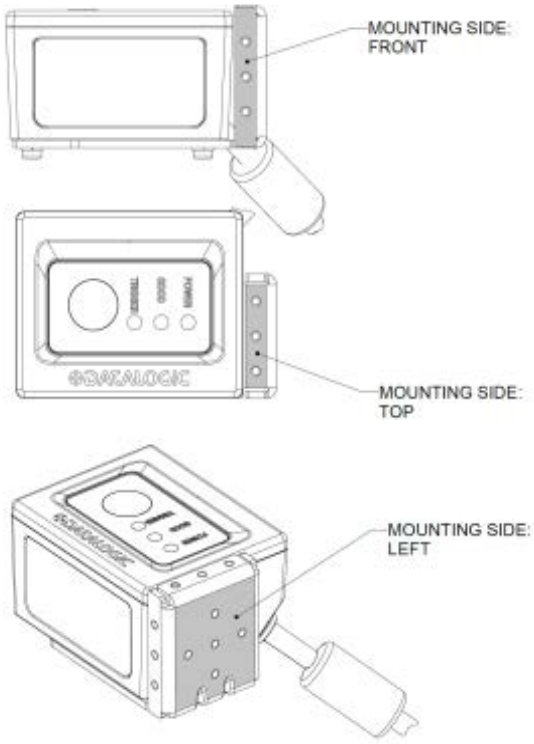


DSM0400 Mounting using brackets

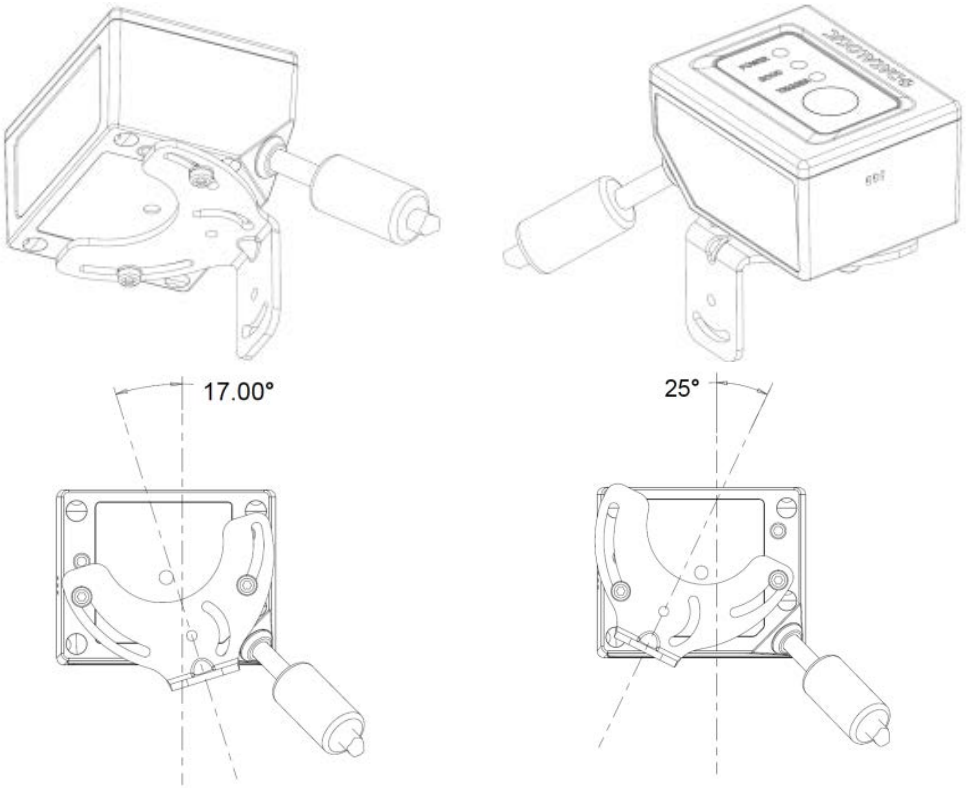
The brackets are included for mounting the DSM0400 onto a stationary surface, on all sides or with different angles. Attach the desired bracket to the bottom of the reader using the provided screws, as shown in the figures below. See Appendix a for the mechanical drawings.

Multi side Mounting Bracket

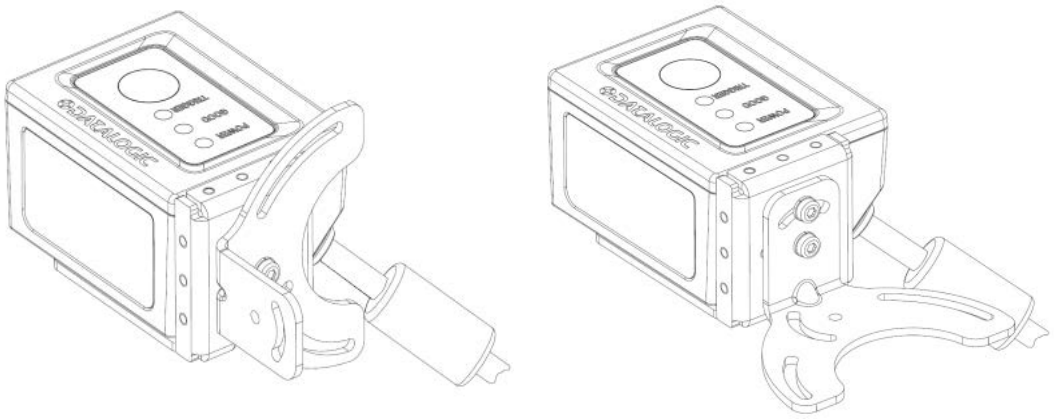




Angular Bracket (-17° to 25° Angle Mounting)



Both Brackets applied

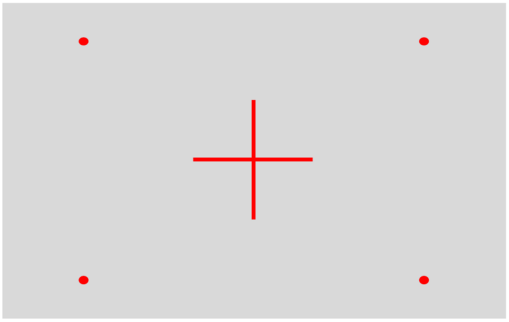


N.4 M2x0.4X4 ISO14583 NYLOK 180 T6 SCREWS, N.4 LOCK WASHERS UNI 1751 INCLUDED

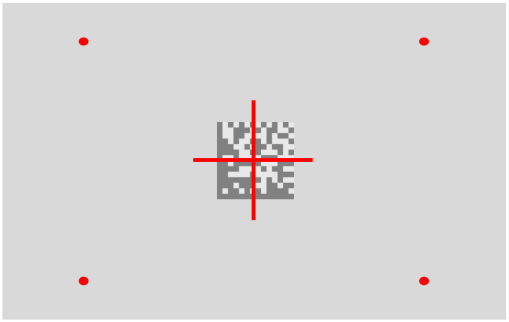
USING THE DSM0400

The DSM0400 normally functions by capturing and decoding codes. The aiming system is activated on trigger pull and indicates the center of the field of view which should be positioned over the bar code:

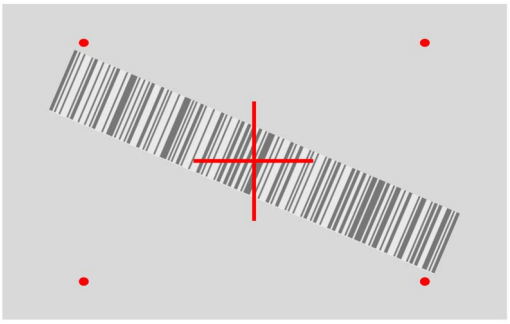
Figure 3 Aiming System



Relative Size and Location of Aiming System Pattern

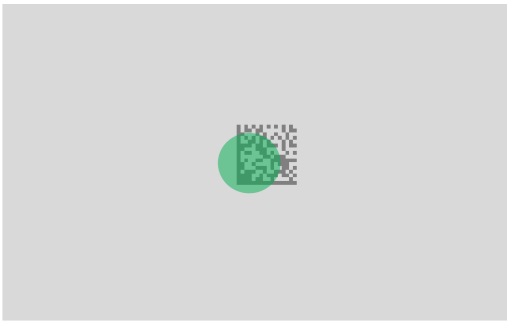


2D Matrix Symbol



Linear Bar

A red beam illuminates the label. The field of view indicated by the aiming system will be smaller when the reader is closer to the bar code and larger when it is farther from the code. Symbologies with smaller bars or elements (mil size) should be read closer to the unit. If the aiming system is centered and the entire bar code is within the aiming field, you will get a good read. Successful reading is signaled by an audible tone plus a good-read green spot LED indicator.



Relative Size and Location Green Spot

INTERFACE SELECTION

Upon completing the physical connection between the scanner and its host, proceed directly to “Configuring the Interface” on page 9 for information and programming for the desired interface type and scan the appropriate bar code in that section to select your system’s correct interface type.

The scanner, depending upon the model, will support one of the following sets of host interfaces:

- USB (Keyboard, COM, OEM)
- USB Composite (Keyboard + COM)
- RS-232 STD

For an improved ease of installation, the DSM0400 features a cable auto-recognition procedure at the startup:

- if a RS232 cable is used, the device will always boot in the RS232 interface configuration.
- If a USB cable is used the device will always boot in the preferred USB interface configuration, as descripted in "Configuring the Interface" (default is USB composite interface). Scan the appropriate barcode for your reader’s interface type from the following section.

Configuring the Interface

Scan the programming bar code from the following section which selects the appropriate interface type to match the system the scanner will be connected to. Next, proceed to the corresponding chapter in this manual (also listed in the table) to configure any desired settings and features associated with that interface. The default interface of DSM0400 is USB-Composite

NOTE: Thanks to the cable auto-recognition feature, there is no need to scan RS-232 interface because it is automatically selected at power-up; the RS-232 label is anyway provided for reference in case of specific needs.

NOTE: Unlike some other programming features and options, interface selections require that you scan only one programming bar code label. DO NOT scan an ENTER/EXIT Programming Mode bar code prior to scanning an interface selection bar code.

Table 1. Available Interfaces

RS-232 standard interface (Interface features starting on page 17)	Select RS232-STD
Select USB-COM	USB Com emulating RS-232 standard interface
USB-OEM (can be used for OPOS/UPOS/JavaPOS) (Interface features starting on page 51)	Select USB-OEM
Select USB-Keyboard	USB-Keyboard with standard key encoding (Interface features starting on page 22)
★USB-Composite (combines USB-Keyboard and USB-COM)	Select USB-Composite

CUSTOMIZING CONFIGURATION SETTINGS

Using the Programming Bar Codes

This manual contains feature descriptions and bar codes which allow you to reconfigure your scanner. Some programming bar code labels, like Resetting the Product Configuration to Defaults on page 13, require only the scan of that single label to enact the change. Most of the programming labels in this manual, however, require the scanner to be placed in Programming Mode prior to scanning them. Scan an ENTER/EXIT Programming Mode bar code once to enter Programming Mode. Once the scanner is in Programming Mode, you can scan a number of parameter settings before scanning the ENTER/EXIT bar code a second time, which will then accept your changes, exit Programming Mode and return the scanner to normal operation.

NOTE: There are some exceptions to the typical programming sequence described above. Please read the description and setting instructions carefully when configuring each given programmable feature.

Datalogic DESP protocol SDK

The Decoded Engine Serial Protocol (DESP) is a serial communication protocol developed by Datalogic, independent from both the platform and the physical layer. DESP is also available as a software library, in order to enhance the application development. The provided APIs covers the most common activities, such as acquisition and configuration, so that DSM0400 can be controlled and configured using its communication interface with the host. The SDK can also be used for software update.

DespDemoApp

This is demo application is a GUI-based software that implements the DESP library. It is available for Windows platforms and for RS-232 and USB-COM communication protocols. This application covers all the main features of the protocol and it is very useful to let the user familiarize with the DESP protocol and the product.

Datalogic Aladdin™ Utility

Programming can alternatively be performed using the Datalogic Aladdin™ Configuration application which is available for free download from the Datalogic website listed on the back cover of this manual. This multi-platform utility program allows device configuration using a PC. It communicates to the device using a serial or USB cable and can also create configuration bar codes to print.

Datalogic Aladdin™ is a multi-platform utility program providing a quick and user-friendly configuration method via the RS-232/USB-COM interface. The Aladdin utility is available on the Datalogic website. Aladdin allows you to program the scanner by selecting configuration commands through a user-friendly graphical interface running on a PC. These commands are sent to the scanner over the selected communication interface, or they can be printed as bar codes to be scanned.

Aladdin also provides the ability to perform a software upgrade for the connected device (see the Datalogic Aladdin™ Help On-Line for more details).

Interface Settings

The scanner is typically factory-configured with a set of default features standard to the interface type you ordered. See Using the DSM0400 on page 8.

Configuration Using Bar Codes provides settings configurable by all interface types. If your installation requires you to further customize your scanner, you can select other options through use of the instructions and programming bar codes available in the appropriate section for your interface.

- RS-232 ONLY Interface, starting on page 17
- USB Keyboard ONLY Interface, starting on page 22
- USB-OEM ONLY Interface, starting on page 51

Configuring Other Features

If your installation requires different programming than the standard factory default settings, the following sections of this manual allow configuration of non-interface-specific settings you might require:

Configuration Using Bar Codes: General Features includes programming for scanning, speaker and LED indicators and other such universal settings.

Reading Parameters: Reading Parameters include programming for scanning, speaker and LED indicators and other universal settings.

2D Symbologies: Includes options concerning the bar code label types (symbologies). These settings allow you to enable/disable symbologies, set label lengths, require check digit, etc.

Software Version Transmission

The software version of the device can be transmitted over the RS-232, Keyboard and USB interfaces by scanning the following label.

Transmit Software Version

Resetting the Product Configuration to Defaults

If you aren't sure what programming options are in your scanner, or you've changed some options and want to restore the Default Configuration, scan the Restore Default Configuration bar code below. This will restore the factory configuration for the currently active interface.

NOTE: Defaults are based on the interface type. Configure the scanner for the correct interface before scanning this label.

Restore Default Configuration

The DSM0400 decoder supports either DM configuration or C128 configuration bar-codes.In this manual only C128 labels are included.

The DSM0400 default uses C128 labels for configuration. To switch back and forth between the two barcode types, scan the following barcodes:

C128 switches to DM configuration

DM switches to C128 configuration

CHAPTER 3
CONFIGURATION USING BAR CODES

This and following sections provide programming bar codes to configure your scanner by changing the default settings. For details about additional methods of programming, see "Customizing Configuration Settings" on page 12.

NOTE: You must first enable your scanner to read bar codes in order to use this section. If you have not done this, go to Setup, starting on page 4 and complete the appropriate procedure.

CONFIGURATION PARAMETERS

Once the scanner is set up, you can change the default parameters to meet your application needs. Refer to "Resetting the Product Configuration to Defaults" on page 13 for initial configuration in order to set the default values and select the interface for your application.

The following configuration parameters are divided into logical groups, making it easy to find the desired function based on its reference group.

Interface Configuration:

- "RS-232 ONLY Interface" on page 17
- "USB Keyboard ONLY Interface" on page 22
- "USB-OEM ONLY Interface" on page 51

Parameters common to all interface applications:

- "Global Prefix/Suffix" on page 54
- "Data Format" on page 53 offers advanced configuration options for customization of scanned data output.
- "Reading Parameters" on page 57 control various operating modes and indicators status functioning.

Symbology-specific parameters:

"2D Symbologies" on page 157 defines options for all symbologies and provides the programming bar codes necessary for configuring these features.

NOTE: You must first enable your scanner to read bar codes in order to use this section. If you have not done this, go to Setup, starting on page 4 and complete the appropriate procedure.

To program features:

1. Scan the ENTER/EXIT PROGRAMMING MODE bar code, available at the top of each programming page, when applicable.
2. Scan the bar code to set the desired programming feature. You may need to cover unused bar codes on the page, and possibly the facing page, to ensure that the scanner reads only the bar code you intend to scan.
3. If additional input parameters are needed, go to Appendix C, and scan the appropriate characters from the keypad.

NOTE: Additional information about many features can be found in Chapter 4, "References".

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

4. Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

For more detailed description, programming information and examples for setting selected configuration items, see Chapter 4, References.

RS-232 ONLY INTERFACE

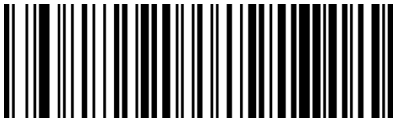
Use the programming bar codes in this chapter if modifications to the standard RS-232 interface settings are necessary to meet your system's requirements.

SECTION CONTENTS

Baud Rate

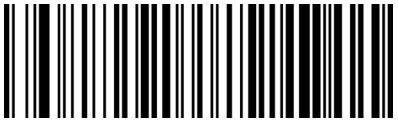
Baud rate is the number of bits of data transmitted per second. Set the scanner's baud rate to match the baud rate setting of the host device. With an improper baud rate setting, data may not reach the host correctly.

Baud Rate = 1200



Baud Rate = 2400

Baud Rate = 4800



Baud Rate = 9600

Baud Rate = 19,200

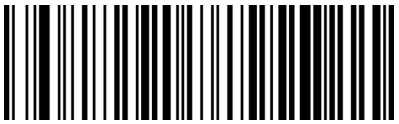
Baud Rate = 38,400

Baud Rate = 57,600

★Baud Rate = 115,200

Data Bits

This parameter allows the reader to interface with devices requiring a 7-bit or 8-bit ASCII protocol for sending and receiving data.



7 Data Bits

★8 Data Bits

Stop Bits

The stop bit(s) at the end of each transmitted character marks the end of transmission of one character and prepares the receiving device for the next character in the serial data stream. The number of stop bits selected (one or two) depends on the number the receiving terminal is programmed to accommodate. Set the number of stop bits to match host device requirements.

★1 Stop Bit

2 Stop Bits

Parity

This feature specifies parity required for sending and receiving data. A parity check bit is the most significant bit of each ASCII coded character. Select the parity type according to host device requirements.

- Select None when no parity bit is required.
- Select Odd parity and the parity bit value is set to 0 or 1, based on data, to ensure that an odd number of 1 bits are contained in the coded character.
- Select Even parity and the parity bit value is set to 0 or 1, based on data, to ensure that an even number of 1 bits are contained in the coded character.

★Parity = None

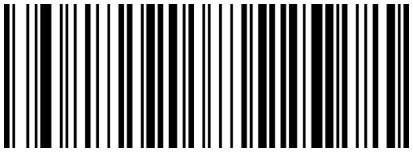
Parity = Even

Parity = Odd

Handshaking Control

The data interface consists of an RS-232 port designed to operate either with or without the hardware handshaking lines, Request to Send (RTS), and Clear to Send (CTS). Handshaking Control includes the following options:

- None - No HW flow control
- RTS — RTS is asserted during transmissions. CTS is ignored.
- RTS/CTS — RTS is asserted during transmissions. CTS gates transmissions.
- RTS On/CTS — RTS is always asserted. CTS gates transmissions.



★Handshaking Control = None

Handshaking Control = RTS

Handshaking Control = RTS/CTS

Handshaking Control = RTS On/CTS

USB KEYBOARD ONLY INTERFACE

Use the programming bar codes in this chapter to select options for USB Keyboard only Interface.

SECTION CONTENTS

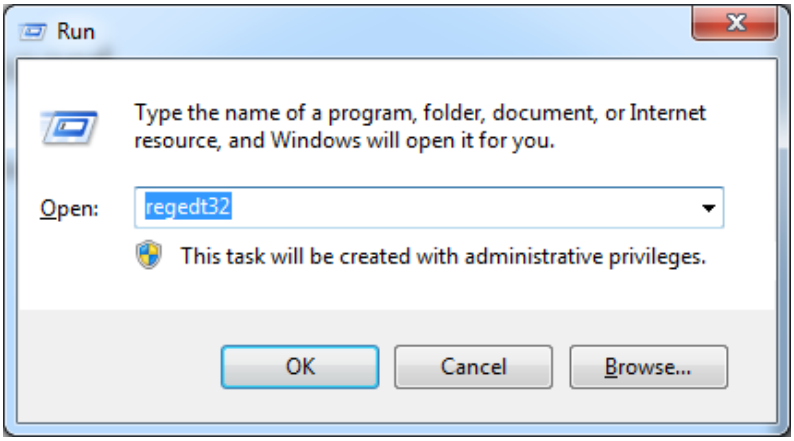
COUNTRY MODE

This feature specifies the country/language supported by the keyboard.

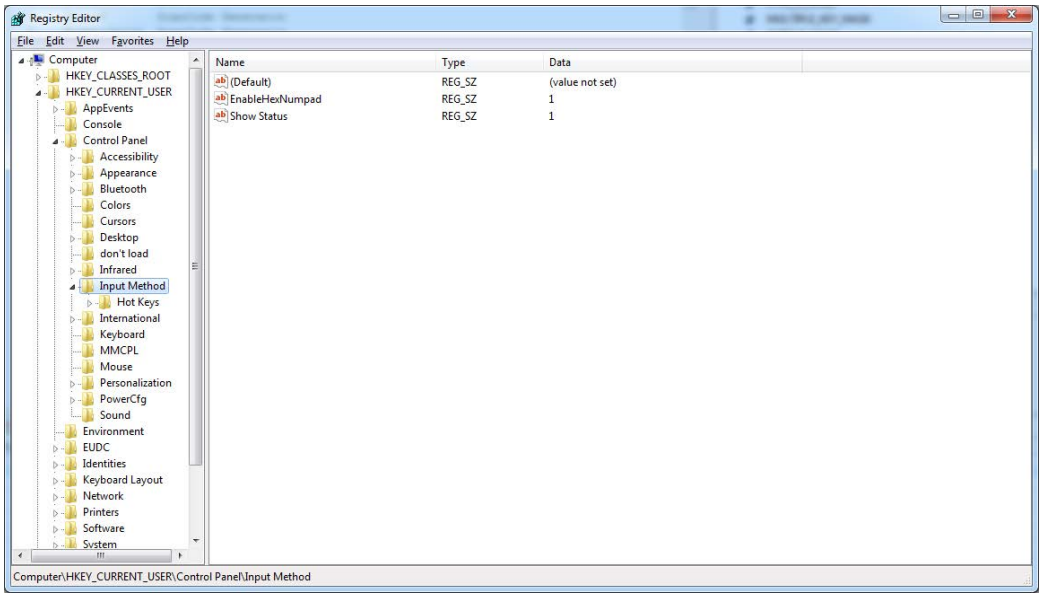
The Country Mode setting is ignored if the interface uses alternate key encoding.

Setup on PC to use ALT Universal

1. Open Registry Edit



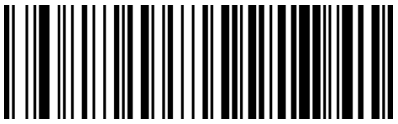
2. Set EnableHexNumpad to 1 as follows:



3. Reset the PC.

Setting Country Mode

★United States



French International (Belgian French)

United Kingdom

Danish

French (France)

German

Italian

Setting Country Mode (continued)

Norwegian

Portuguese Portugal

Spanish

Swedish

Swiss French

Japanese ASCII

Hungarian

Setting Country Mode (continued)

Czech

SlovaK

Romanian

Croatian

Polish_214

Canadian French Win7

Lithuanian

Setting Country Mode (continued)

Vietnamese

Russian

Arabic 101

Chinese ASCII

Thai-Kedmanee

Albanian

Arabic 102

Setting Country Mode (continued)

Arabic 102 AZERTY

Azeri Cyrillic

Azeri Latin

Belarusian

Bosnian Cyrillic

Bosnian Latin

Bulgarian Cyrillic

Setting Country Mode (continued)

Canadian French (Legacy)

Canadian Multilingual

Chinese (Simplified)

Chinese (Traditional)

Czech Programmers

Czech QWERTY

Setting Country Mode (continued)

Dutch Netherland

Faeroese

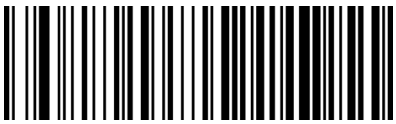
Finnish

French (Canada) 2000/XP

French (Canada) 95/98

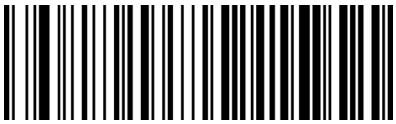
Galician

Setting Country Mode (continued)



Greek Latin

Greek Polytonic



Greek220

Greek220 Latin

Greek319

Greek319 Latin

Setting Country Mode (continued)

Hebrew Israel

Hungarian_101KEY

Icelandic

Irish

Italian_142

Japanese (Shift-JIS)

Kazakh

Setting Country Mode (continued)

Korean (Hangul)

Korean ASCII

Kyrgyz Cyrillic

Latin America

Latvian

Latvian QWERTY

Lithuanian_IBM

Setting Country Mode (continued)

Macedonian -FYROM

Maltese_47KEY

Mongolian-Cyrillic

Polish Programmer

Portuguese Brazil

Portuguese Brazilian ABNT

Portuguese Brazilian ABNT2

Setting Country Mode (continued)

Romanian Legacy

Romanian Programmer

Romanian Standard

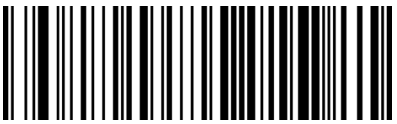
Russian Typewriter

Serbian Cyrillic

Serbian Latin

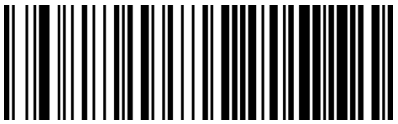
Slovak QWERTY

Setting Country Mode (continued)



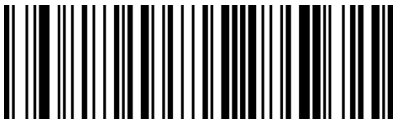
Spanish Variation

Swiss German



Tatar

Turkish F



Turkish Q

Ukrainian

Setting Country Mode (continued)

US Dvorak

US Dvorak Left Hand

US Dvorak Right Hand

US English (Mac)

US English (North American)

US International

Uzbek Cyrillic

OTHER KEYBOARD PARAMETERS

Setting Encoding Type

★Don't use encoding

UTF_8

Windows 874

Windows 932

Windows 936

Windows 949

Windows 950

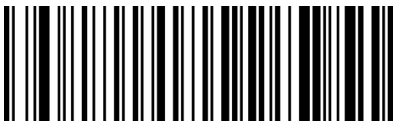
Setting Encoding Type (continued)

Windows 1250

Windows 1251

Windows 1252

Windows 1253



Windows 1254

Windows 1255

Windows 1256

Setting Encoding Type (continued)

Windows 1257

Windows 1258

Windows 20866

ISO 8859-1

ISO 8859-2

ISO 8859-3

ISO 8859-4

Setting Encoding Type (continued)

ISO 8859-5

ISO 8859-6

ISO 8859-7

ISO 8859-8

ISO 8859-9

ISO 8859-10

ISO 8859-11

Setting Encoding Type (continued)

ISO 8859-14

ISO 8859-15

ISO 8859-16

MS-DOS 437

MS-DOS 737

MS-DOS 775

Setting Encoding Type (continued)

MS-DOS 850

MS-DOS 852

MS-DOS 855

MS-DOS 857

MS-DOS 860

MS-DOS 861

MS-DOS 862

Setting Encoding Type (continued)

MS-DOS 863

MS-DOS 865

MS-DOS 866

MS-DOS 869

Mac CP10000

Setting ALT Input Type

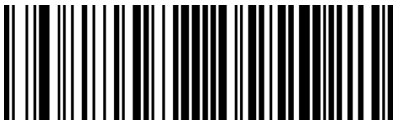
This option specifies Usb Keyboard input type to Alt Mode. (Be aware that the scanner may switch automatically between ALT mode & Normal Keyboard Scancode, to correctly display some characters that are not present in the current Keyboard Country).

★Disable ALT Mode

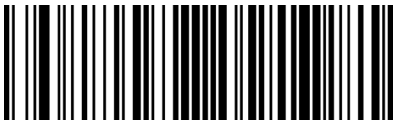
Enable ALT Mode

Setting ALT Output Type

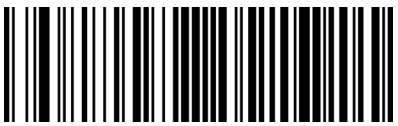
This option specifies the encode type of ALT Mode when the scanner sends Output Keyboard Data in Alt Mode. (Be aware that the scanner may switch automatically between ALT mode & Normal Keyboard Scancode, to correctly display some characters that are not present in the current Keyboard Country).



ALT Codepage: (use on non Unicode application: Notepad)



ALT Unicode: (use on Unicode application: Word)

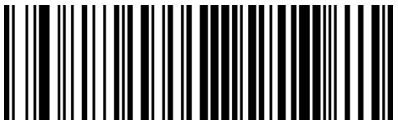


★ALT Universal: (Use for all)

Keyboard Numeric Keypad

This feature specifies if numeric characters will be sent using the standard keys or the numeric keypad.

★Keyboard Numeric Keypad = Standard Keys



Keyboard Numeric Keypad = Numeric Keypad

Keyboard Send Control Characters

This feature is used by USB Keyboard only interface. It specifies how the scanner transmits ASCII control characters to the host.

Options are as follows:

Send Ctrl+Key : ASCII characters from 00H to 0x1FH inclusive are transmitted in the format Ctrl+Key. Special keys are available in the range from 81H to A1.

Send Ctrl+Shift+Key : The behavior is the same as above, but control keys are sent in the format Ctrl+Shift+Keys.

Send Special Function Key : Send characters between 00H and 1FH according to the special function key mapping table. This is used to send keys that are not in the normal ASCII set. A unique set is provided for each available scancode set.

★Keyboard Send Control Characters = Send Ctrl+Key

Keyboard Send Control Characters = Send Ctrl+Shift+Key

Keyboard Send Control Characters = Send Special Function Key

USB Keyboard Speed

This option specifies the USB poll rate for a USB keyboard.

NOTE: This feature applies ONLY to the USB Keyboard interface.

USB Keyboard Speed = 1ms

USB Keyboard Speed = 2ms

USB Keyboard Speed = 3ms

USB Keyboard Speed = 4ms

USB Keyboard Speed = 5ms

USB Keyboard Speed = 6ms

USB Keyboard Speed = 7ms

USB Keyboard Speed = 8ms

USB Keyboard Speed - continued

USB Keyboard Speed = 9ms

USB Keyboard Speed = 10ms

USB Keyboard Speed = 11ms

USB Keyboard Speed = 12ms

USB Keyboard Speed = 13ms

USB Keyboard Speed = 14ms

USB Keyboard Speed = 15ms

USB Keyboard Speed - continued

USB Keyboard Speed = 16ms

USB Keyboard Speed = 17ms

USB Keyboard Speed = 18ms

USB Keyboard Speed = 19ms

USB Keyboard Speed = 20ms

USB-OEM ONLY INTERFACE

SECTION CONTENTS	
•Introduction	•USB-OEM Device Usage

Introduction

Feature settings for USB interfaces differ depending upon which host type the scanner will be connected with. Use the feature settings in this chapter to specifically configure for the USB-OEM interface. Other USB interfaces are included in the appropriate chapter for their host type.

USB-OEM Device Usage

The USB-OEM protocol allows for the scanner to be identified as one of two different types of bar code scanners. Depending on what other scanners you may already have connected to a USB-OEM POS, you may need to change this setting to enable all devices to communicate.

Options are:

- Tabletop Scanner
- Handheld Scanner

NOTE: It may be necessary to switch device usage when connecting two scanners of the same type to a POS system.

★USB-OEM Device Usage = Tabletop Scanner

USB-OEM Device Usage = Handheld Scanner

DATA FORMAT

SECTION CONTENTS

The features in this chapter can be used to build specific user-defined data into a message string.

See Chapter 4, References for more detailed instructions on setting these features.

Global Prefix/Suffix

Up to 20 ASCII characters may be added as a prefix (in a position before the bar code data) and/or as a suffix (in a position following the bar code data).

Set the value “00” (two ‘0’ characters) to have no Global Prefix/Suffix. The default is <CR> character suffix. See "Global Prefix/Suffix" on Chapter 4, References for more detailed programming instructions.

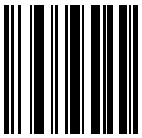
To configure this feature, scan the ENTER/EXIT bar code above, then the bar code at left followed by digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again and then exit programming mode by scanning it one more time.

Set Global Prefix

Set Global Suffix

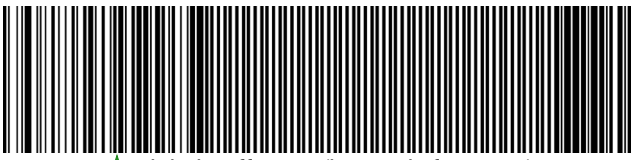
To configure this feature, scan the ENTER/EXIT bar code above, then the bar code at left followed by digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again and then exit programming mode by scanning it one more time.

Did you make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.



CAÑCEL

The default is <CR> character suffix. For setting <CR> character as global Suffix, enter Programming Mode, then read the following bar code and then exit Programming Mode



★Global Suffix: 0D (hex code for <CR>)

Global AIM ID

NOTE: This feature enables/disables addition of AIM IDs for all symbology types.

AIM label identifiers (as opposed to custom characters you select yourself as with label identifiers) can be included with scanned bar code data. See "Global AIM ID" on Chapter 4, References for more detailed programming instructions.

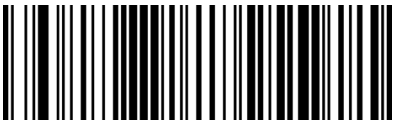
★Global AIM ID = Disable

Global AIM ID = Enable

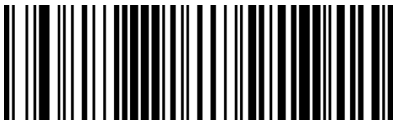
GS1-128 AIM ID

If Global AIM ID is disabled, the AIM ID for GS1-128 can be enabled/disabled independently. The AIM ID for GS1-128 is a]C1,]C2 or]C3.

AIM IDs for other symbologies can be enabled/disabled independently as well. Contact Customer Support for assistance.



GS1-128 AIM ID = Disable



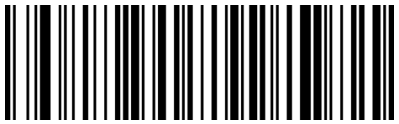
★GS1-128 AIM ID = Enable

READING PARAMETERS

SECTION CONTENTS

DOUBLE READ TIMEOUT

To prevent a double read of the same label, the Double Read Timeout sets the minimum time allowed between reads of labels of the same symbology and data. If the unit reads a label and sees the same label again within the Double Read Timeout, the second read of the label will be ignored. Double Read Timeout does not apply to scan modes that require a trigger pull for each label that is read.



Double Read Timeout = 0.1 Second

Double Read Timeout = 0.2 Second

Double Read Timeout = 0.3 Second

Double Read Timeout = 0.4 Second

Double Read Timeout (continued)

Double Read Timeout = 0.5 Second

Double Read Timeout = 0.6 Second

Double Read Timeout = 0.7 Second

Double Read Timeout = 0.8 Second

Double Read Timeout = 0.9 Second

★Double Read Timeout = 1 Second

LED AND SPEAKER INDICATORS

Good Read Speaker Volume

Selects the speaker volume (loudness) upon a good read beep. There are three selectable volume levels.

Good Read Speaker Volume = Speaker Off

Good Read Speaker Volume = Low

Good Read Speaker Volume = Medium

★Good Read Speaker Volume = High

Enable/Disable Green Spot (Good Read) LED Indicator

Enable/Disable the green spot (good read) LED indicator.

Green Spot = Disable

★Green Spot = Enable

Enable/Disable Trigger LED indicator

Enable/Disable Trigger LED Indicator (blue LED)

Trigger LED = Disable

★Trigger LED = Enable

Enable/Disable Power LED Indicator

Enable/Disable Power LED Indicator (yellow LED)

Power LED = Disable

★Power LED = Enable

SCANNING FEATURES

Scan Mode

See "Scan Mode" on Chapter 4, References for more details.

★Scan Mode = Trigger Single

Scan Mode = Trigger Hold Multiple

Scan Mode = Trigger Pulse Multiple

Scan Mode = Flashing

Scan Mode = Always On

Scan Mode = Stand Mode

Scan Mode = Image Capture

Scan Mode = Serial Line[a]

a. Since release 2.7.4.0. the serial line is implemented.

Manual Trigger Mode

NOTE: This feature is available in Serial Line mode only.

This feature is used to enable/disable manual trigger when the reader is in Serial Line reading mode.

- Enable: allows a manual trigger push to start
- Disable: (default) locks out the trigger button and does not allow manual triggering to start a reading phase. When disabled, the trigger can still be activated once by pressing and holding the trigger to 5 seconds to enter Debug Mode.

★Manual Trigger Mode = Disable

Manual Trigger Mode = Enable

Serial Start Character

See page 209 in “References” for more information.

Select Serial Start Characters

To configure this feature scan the ENTER/EXIT PROGRAMMING MODE barcode above, then the barcode at left, followed by the digits (in hex) from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT barcode again

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0x58 = Serial Start Caracter is [X]

Serial Stop Character

See page 209 in “References” for more information.

Select Serial Stop Characters

To configure this feature scan the ENTER/EXIT PROGRAMMING MODE barcode above, then the barcode at left, followed by the digits (in hex) from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT barcode again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0x54 = Serial Stop Caracter is [T]

NOTE: The Serial Start/Stop Characters must be different and must not contain reserved characters (see Appendix D)

Flash On Time

This feature specifies the ON time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments. Always use two digits (e.g.: scan the barcode '0' and the barcode '2' for setting 0.2 seconds). For more detailed programming instructions, see "Flash On Time" on Chapter 4, References.

Select Flash ON Time Setting

To configure this feature, scan the ENTER/EXIT bar code above, then the bar code at left followed by digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★10 = Flash is ON for 1 Second

Flash Off Time

This feature specifies the OFF time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments. Always use two digits (e.g.: scan the barcode '0' and the barcode '2' for setting 0.2 seconds.) For more detailed programming instructions, see "Flash Off Time" on Chapter 4, References.

Select Flash OFF Time Setting

To configure this feature, scan the ENTER/EXIT bar code above, then the bar code at left followed by digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★05 = Flash is OFF for 500ms

Stand Mode Sensitivity

Sets the sensitivity level for stand mode wakeup. Choices are low, medium and high.

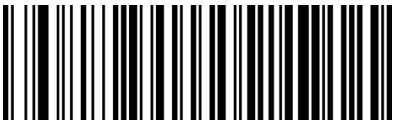
Stand Mode Sensitivity = Low

★Stand Mode Sensitivity = Medium

Stand Mode Sensitivity = High

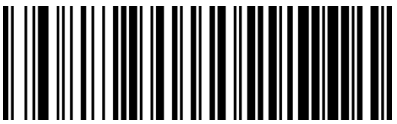
Scanning Active Time

This setting specifies the amount of time that the reader stays in scan ON state once the state is entered. Here the labels for quick configuration on 3, 5 or 8 seconds. More options are available using DESP or Aladdin configuration protocols.



Scanning Active Time = 3 seconds

★Scanning Active Time = 5 seconds



Scanning Active Time = 8 seconds

Pick Mode

Specifies the ability of the reader to decode labels only when they are close to the center of the aiming pattern. This allows the reader to accurately target labels when they are placed close together, such as on a pick sheet.

The Pick Mode can be enabled only in Trigger Single Scan Mode.

NOTE: This feature is not compatible with Multiple Labels Reading in a Volume.

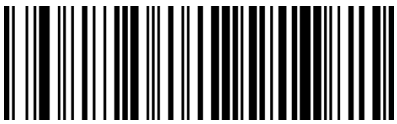
★Pick Mode = Disable

Pick Mode = Enable

Aiming Pointer

Enables/disables the aiming pointer for all symbologies.

Aiming Pointer = Disable



★Aiming Pointer = Enable

Green Spot Duration

Specifies the duration of the good read pointer beam after a good read.

Green Spot Duration = Disable (Green Spot is Off)

★Green Spot Duration = Short (300 msec)

Green Spot Duration = Medium (500 msec)

Green Spot Duration = Long (800 msec)

Enhanced Mobile Phone Mode

This mode is useful for improving reading performances when scanning bar codes displayed on a mobile phone.

★Enhanced Mobile Phone Mode = Disable

Enhanced Mobile Phone Mode = Enable

Decode Negative Image

Enable/Disable the ability to decode a negative image for all symbologies. When this feature is enabled, you will be unable to read normally-printed labels or programming labels in this manual. Scan the “Disable” bar code below to return the scanner to its default for this feature. To set decoding for only 2D codes, go to "2D Normal/Inverse Symbol Control" on page 159. For additional options, see the Aladdin configuration application.

NOTE: Unlike some programming features and options, Decode Negative Image selections require that you scan only one programming bar code label. DO NOT scan an ENTER/EXIT bar code prior to scanning a Decode Negative Image bar code.

CAUTION: When this feature is enabled, you will be unable to read other programming labels in this manual.

★Decode Negative Image = Disable

Decode Negative Image = Enable

1D SYMBOLOGIES

The decoder supports the following symbologies (barcode types). Symbology-dependent options for each symbology are included in this chapter.

SECTION CONTENTS	

DISABLE ALL SYMBOLOGIES

Use this feature to disable all symbologies.

1. Scan the ENTER/EXIT PROGRAMMING MODE barcode below.
2. Scan the Disable All Symbologies barcode.
3. Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING barcode.

ENTER/EXIT PROGRAMMING MODE

Disable All Symbologies

NOTE: This does not disable the reading of programming labels.

Default settings are indicated at each feature/option with a green arrow. That section also provides space to record any custom settings needed or implemented for your system.

To set most features:

1. Scan the ENTER/EXIT PROGRAMMING barcode at the top of applicable programming pages.
2. Scan the correct barcode to set the desired programming feature or parameter. You may need to cover unused barcodes on the page, and possibly the facing page, to ensure that the reader reads only the barcode you intend to scan.
3. If additional input parameters are needed, go to Appendix C, and scan the appropriate characters from the keypad.

NOTE: Additional information about many features can be found in the "References" chapter.

If you make a mistake before the last character, scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

4. Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING barcode to exit Programming Mode.

CODE EAN/UPC

Coupon Control

This feature is used to control the reader's method of processing coupon labels.

Coupon Control = Allow all coupon barcodes to be decoded

★Coupon Control = Enable only UPCA coupon decoding

Coupon Control = Enable only GS1 DataBar™ coupon decoding

UPC-A

The following options apply to the UPC-A symbology.

UPC-A Enable/Disable

When disabled, the reader will not read UPC-A barcodes.

UPC-A = Disable

★UPC-A = Enable

UPC-A Check Character Transmission

Enable this option to transmit the check character along with UPC-A barcode data.

UPC-A Check Character Transmission = Don't Send

★UPC-A Check Character Transmission = Send

Expand UPC-A to EAN-13

Expands UPC-A data to the EAN-13 data format. Selecting this feature also changes the symbology ID to match those required for EAN-13.

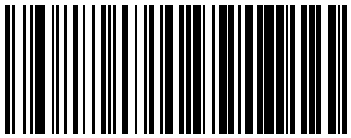
★UPC-A to EAN-13 = Don't Expand

UPC-A to EAN-13 = Expand

UPC-A Number System Character Transmission

This feature enables/disables transmission of the UPC-A number system character.


UPC-A Number System Character = Do not transmit


★UPC-A Number System Character = Transmit

UPC-E

The following options apply to the UPC-E symbology.

UPC-E Enable/Disable

When disabled, the reader will not read UPC-E barcodes.


UPC-E = Disable


★UPC-E = Enable

UPC-E Check Character Transmission

Enable this option to transmit the check character along with UPC-E barcode data.Expand UPC-E to EAN-13

UPC-E Check Character Transmission = Don't Send

★UPC-E Check Character Transmission = Send

Expands UPC-E data to the EAN-13 data format. Selecting this feature also changes the symbology ID to match those required for EAN-13.

★UPC-E to EAN-13 = Don't Expand

UPC-E to EAN-13 = Expand

Expand UPC-E to UPC-A

Expands UPC-E data to the UPC-A data format.

★UPC-E to UPC-A = Don't Expand

UPC-E to UPC-A = Expand

UPC-E Number System Character Transmission

This feature enables/disables transmission of the UPC-E system number character.

UPC-E Number System Character = Do not transmit

★UPC-E Number System Character = Transmit

GTIN FORMATTING

This feature enables/disables the ability to convert UPC-E, UPC-A, EAN 8, and EAN 13 labels into the GTIN 14-character format.

NOTE: If add-on information is present on the base label prior to the conversion taking place, the add-on information will be appended to the converted GTIN label.

★GTIN Formatting = Disable

GTIN Formatting = Enable

EAN 13 (JAN 13)

The following options apply to the EAN 13 (Jan 13) symbology.

EAN 13 Enable/Disable

When disabled, the reader will not read EAN 13/JAN 13 barcodes.

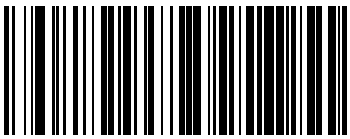

EAN 13 = Disable


★EAN 13 = Enable

EAN 13 Check Character Transmission

Enable this option to transmit the check character along with EAN 13 barcode data.


EAN 13 Check Character Transmission = Don't Send


★EAN 13 Check Character Transmission = Send

EAN-13 ISBN Conversion

This option enables/disables conversion of EAN 13/JAN 13 Bookland labels starting with 978 to ISBN labels.

★EAN-13 ISBN Conversion = Disable

EAN-13 ISBN Conversion = Convert to ISBN

ISSN

The following options apply to the ISSN symbology.

ISSN Enable/Disable

Enables/disables conversion of EAN/JAN13 Bookland labels starting with 977 to ISSN labels.

★ISSN = Disable

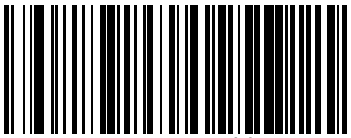
ISSN = Enable

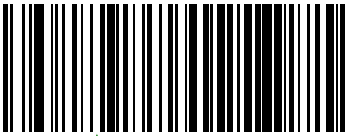
EAN 8 (JAN 8)

The following options apply to the EAN 8 (Jan 8) symbology.

EAN 8 Enable/Disable

When disabled, the reader will not read EAN 8/JAN 8 barcodes.

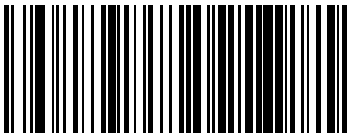

EAN 8 = Disable


★EAN 8 = Enable

EAN 8 Check Character Transmission

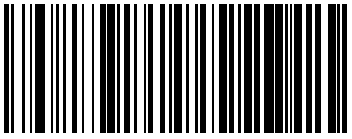
Enable this option to transmit the check character along with EAN 8 barcode data.


EAN 8 Check Character Transmission = Don't Send


★EAN 8 Check Character Transmission = Send

Expand EAN 8 to EAN 13

Enable this option to expand EAN 8/JAN 8 labels to EAN 13/JAN 13.


★Expand EAN 8 to EAN 13 = Disable

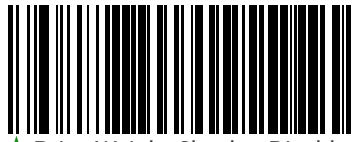

Expand EAN 8 to EAN 13 = Enable

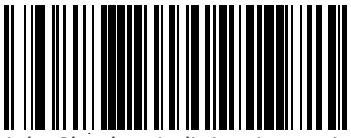
UPC/EAN GLOBAL SETTINGS

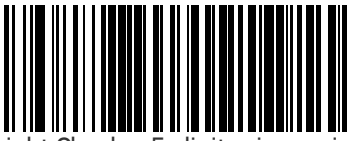
This section provides configuration settings for UPC-A, UPC-E, EAN 13 and EAN 8 symbologies, and affects all of these unless otherwise marked for each feature description.

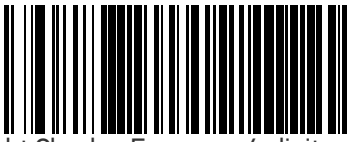
UPC/EAN Price Weight Check

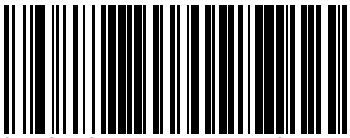
This feature enables/disables calculation and verification of price/weight check digits.


★Price Weight Check = Disabled


Price Weight Check = 4-digit price-weight check


Price Weight Check = 5-digit price-weight check


Price Weight Check = European 4-digit price-weight check


Price Weight Check = European 5-digit price-weight check

ADD-ONS

Contact Customer Support for advanced programming of optional and conditional add-ons.

Optional Add-ons

The reader can be enabled to optionally read the following add-ons (supplementals):

NOTE: If a UPC/EAN base label and an add-on are both decoded, the reader will transmit the base label and add-on. If a UPC/EAN base label is decoded without an add-on, the base label will be transmitted without an add-on. Conditional add-on settings (if enabled) are considered by the reader before optional add-on settings.

★Optional Add-Ons = Disable P2

Optional Add-Ons = Enable P2

★Optional Add-Ons = Disable P5

Optional Add-Ons = Enable P5

Optional Add-On Timer

This option sets the time the reader will look for an add-on when an add-on fragment has been seen and optional add-ons are enabled.)Optional Add-On Timer (continued)

★Optional Add-on Timer = 10ms

Optional Add-on Timer = 20ms

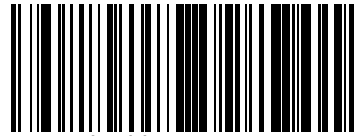
Optional Add-on Timer = 30ms

Optional Add-on Timer = 40ms

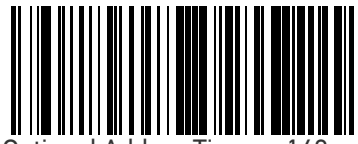
Optional Add-on Timer = 50ms

Optional Add-on Timer = 60ms

Optional Add-on Timer = 70ms


Optional Add-on Timer = 100ms


Optional Add-on Timer = 120ms


Optional Add-on Timer = 140ms


Optional Add-on Timer = 160ms

Optional Add-On Timer (continued)

Optional Add-on Timer = 180ms

Optional Add-on Timer = 200ms

Optional Add-on Timer = 220ms

Optional Add-on Timer = 240ms

Optional Add-on Timer = 260ms

Optional Add-on Timer = 280ms

Optional Add-on Timer = 300ms

CODE 39

The following options apply to the Code 39 symbology.

Code 39 Enable/Disable

Code 39 = Disable

★Code 39 = Enable

Code 39 Check Character Calculation

Enable this option to enables/disables calculation and verification of an optional Code 39 check character. When disabled, any check character in the label is treated as a data character

★Code 39 Check Character Calculation = Don't Calculate

Code 39 Check Character Calculation = Calculate Std Check

Code 39 Check Character Calculation = Calculate Mod 7 Check

Code 39 Check Character Calculation (continued)

Code 39 Check Character Calculation = Enable Italian Post Check

Code 39 Check Character Calculation = Enable Daimler Chrysler Check

Code 39 Check Character Transmission

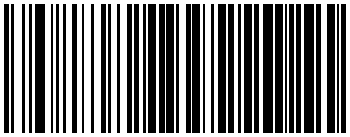
Enable this option to transmit the check character along with Code 39 barcode data.

Code 39 Check Character Transmission = Don't Send

★Code 39 Check Character Transmission = Send

Code 39 Start/Stop Character Transmission

Enable this option to enable/disable transmission of Code 39 start and stop characters.

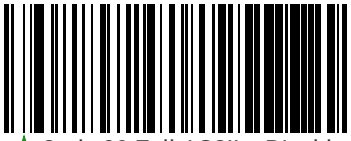


★Code 39 Start/Stop Character Transmission = Don't Transmit

Code 39 Start/Stop Character Transmission = Transmit

Code 39 Full ASCII

Enables/disables the translation of Code 39 characters to Code 39 full-ASCII characters.



★Code 39 Full ASCII = Disable

Code 39 Full ASCII = Enable

Code 39 Quiet zones

This feature specifies the number of quiet zones for Code 39 labels. Quiet zones are blank areas at the ends of a bar code, typically 10 times the width of the narrowest bar or space in the label.

Read the Enter/Exit Programming Mode bar code at the top of this page and then one of the following bar codes.

★Quiet zones = Auto

Quiet Zones = Small Quiet Zones on two side

Code 39 Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for the Code 39 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Code 39 Length Control = Variable Length

Code 39 Length Control = Fixed Length

★Code 39 Length Control = No check

Code 39 Set Length 1

This feature specifies one of the barcode lengths for Code 39. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the barcode's data characters only. The length can be set from 0 to 50 characters. For more detailed programming instructions, see "Set Length" on Chapter 4, References.

Table 2 provides examples for setting Length 1.

Table 2. Code 39 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	Scan SELECT CODE 39 LENGTH 1 SETTING				
4	**Scan Two Characters From Appendix C**	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Code 39 Set Length 1 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★01 = Length 1 is 1 Characters

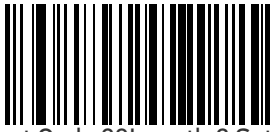
Code 39 Set Length 2

This feature specifies one of the barcode lengths for Code 39. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the barcode's check, data, and full-ASCII shift characters. The length does not include start/stop characters. For more detailed programming instructions, see "Set Length" on Chapter 4, References.

Table 3 provides examples for setting Length 2.

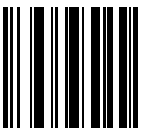
Table 3. Code 39 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT CODE 39 LENGTH 2 SETTING				
4	Scan Two Characters From Appendix C	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				



Select Code 39Length 2 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.



CANCEL

★50 = Length 2 is 50 Characters

Code 39 Interdigit Ratio

This feature specifies the ratio between an intercharacter space and module for Code 39 labels.

★Code 39 Interdigit Ratio = Disable

Code 39 Interdigit Ratio = 1

Code 39 Interdigit Ratio = 2

Code 39 Interdigit Ratio = 3

Code 39 Interdigit Ratio = 4

Code 39 Interdigit Ratio = 5

Code 39 Interdigit Ratio (continued)

Code 39 Interdigit Ratio = 6

Code 39 Interdigit Ratio = 7

Code 39 Interdigit Ratio = 8

Code 39 Interdigit Ratio = 9

Code 39 Interdigit Ratio = 10

CODE 32 (ITAL PHARMACEUTICAL CODE)

The following options apply to the Code 32 (Italian Pharmaceutical Code) symbology.

Code 32 Enable/Disable

When disabled, the reader will not read Code 32 barcodes.

★Code 32 = Disable

Code 32 = Enable

Code 32 Feature Setting Exceptions

NOTE: The following features are set for Code 32 by using these Code 39 settings:

"Code 39 Length Control" on page 91
"Code 39 Interdigit Ratio" on page 94

Code 32 Check Char Transmission

Enable this option to transmit the check character along with Code 32 barcode data.

★Code 32 Check Character Transmission = Don't Send

Code 32 Check Character Transmission = Send

Code 32 Start/Stop Character Transmission

This option enables/disables transmission of Code 32 start and stop characters.

★Code 32 Start/Stop Character Transmission = Don't Transmit

Code 32 Start/Stop Character Transmission = Transmit

CODE 39 CIP (FRENCH PHARMACEUTICAL)

The following options apply to the Code 39 CIP symbology.

Code 39 CIP Enable/Disable

Enables/Disables ability of the reader to decode Code 39 CIP labels.

★Code 39 CIP = Disable

Code 39 CIP = Enable

CODE 128

The following options apply to the Code 128 symbology.

Code 128 Enable/Disable

When disabled, the reader will not read Code 128 barcodes.

Code 128 = Disable

★Code 128 = Enable

Code 128 Check Character Transmission

Enable this option to transmit the check character along with Code 128 barcode data.

★Code 128 Check Character Transmission = Don't Send

Code 128 Check Character Transmission = Send

Code 128 Function Character Transmission

Enables/disables transmission of Code128 function characters 1, 2, 3, and 4.

★Code 128 Function Character Transmission = Don't Send

Code 128 Function Character Transmission = Send

Code 128 Quiet Zones

This feature specifies the number of quiet zones for Code 128 labels. Quiet zones are blank areas at the ends of a barcode and are typically 10 times the width of the narrowest bar or space in the label.

Code 128 Quiet Zones = No Quiet Zones

★Code 128 Quiet Zones = Auto

Code 128 Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for the Code 128 symbology.

Code 128 Length Control = Variable Length

Code 128 Length Control = Fixed Length

★Code 128 Length Control = No Check

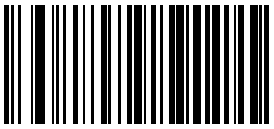
Code 128 Set Length 1

Specifies one of the barcode lengths for Code 128. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the barcode's data characters only. The length can be set from 1 to 80 characters. For more detailed programming instructions, see "Set Length" on Chapter 4, References.

Table 4 provides some examples for setting Length 1.

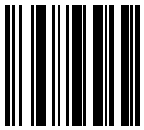
Table 4. Code 128 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	01 Character	07 Characters	15 Characters	80 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT CODE 128 LENGTH 1 SETTING				
4	Scan Two Characters From Appendix C	'0' and '1'	'0' and '7'	'1' and '5'	'8' and '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				



Select Code 128 Set Length 1 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.



CANCEL

★01 = Length 1 is 1 Character

Code 128 Set Length 2

This feature specifies one of the barcode lengths for Code 128. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the barcode's data characters only.

The length can be set from 1 to 80 characters. A setting of 0 specifies to ignore this length (only one fixed length). For more detailed programming instructions, see "Set Length" on Chapter 4, References.

Table 5 provides examples for setting Length 2.

Table 5. Code 128 Length 2 Setting Examples

.

STEP	ACTION	EXAMPLES			
1	Desired Setting	00 (Ignore This Length)	07 Characters	15 Characters	80 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT CODE 128 LENGTH 2 SETTING				
4	Scan Two Characters From Appendix C	'0' and '0'	'0' and '7'	`1' and `5'	`8' and `0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select Code 128 Length 2 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★80 = Length 2 is 80 Characters

GS1-128

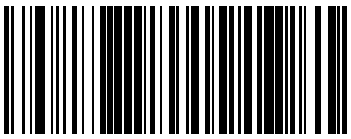
The following options apply to the GS1-128 symbology. (Also known as USS-128, GS1-128, GTIN-128, UCC-128, EAN-128.)

GS1-128 Enable

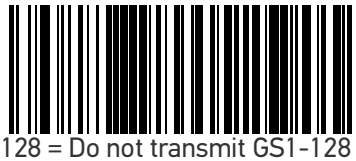
This option enables/disables the ability of the reader to translate GS1-128 labels to the GS1-128 data format. Options are:

- Transmit GS1-128 labels in Code 128 data format.
- Transmit GS1-128 labels in GS1-128 data format.
- Do not transmit GS1-128 labels.

GS1-128 = Transmit in Code 128 data format



★GS1-128 = Transmit in GS1-128 data format



GS1-128 = Do not transmit GS1-128 labels

CODE ISBT 128

The following options apply to the ISBT 128 symbology.

ISBT 128 Concatenation

Use this option to enable/disable ISBT128 concatenation of 2 labels.

★ISBN 128 Concatenation = Disable

ISBN 128 Concatenation = Enable

ISBT 128 Concatenation Mode

Specifies the concatenation mode between Static and Dynamic.

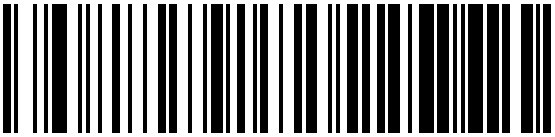
NOTE: This option is only valid when ISBT 128 Concatenation is enabled (see page <Links>9-105).

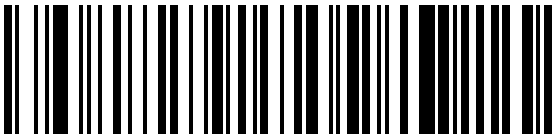
★ISBT 128 Concatenation Mode = Static

ISBT 128 Concatenation Mode = Dynamic

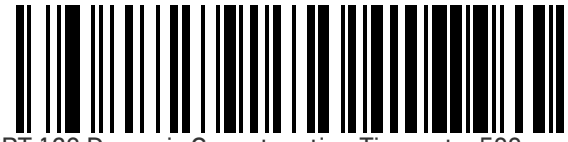
ISBT 128 Dynamic Concatenation Timeout

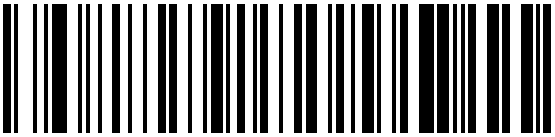
Specifies the timeout used by the ISBT 128 Dynamic Concatenation Mode.

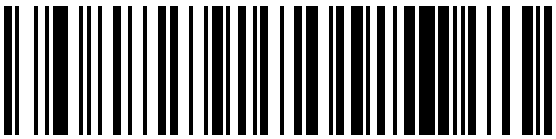

ISBT 128 Dynamic Concatenation Timeout = 50 msec


★ISBT 128 Dynamic Concatenation Timeout = 100 msec


ISBT 128 Dynamic Concatenation Timeout = 200 msec


ISBT 128 Dynamic Concatenation Timeout = 500 msec


ISBT 128 Dynamic Concatenation Timeout = 750 msec


ISBT 128 Dynamic Concatenation Timeout = 1 second

ISBT 128 Advanced Concatenation Options

NOTE: To set up pairs of label types for concatenation, use the Datalogic Aladdin configuration application or contact Datalogic Technical Support.

INTERLEAVED 2 OF 5 (I 2 OF 5)

The following options apply to the I 2 of 5 symbology.

I 2 of 5 Enable/Disable

When disabled, the reader will not read I 2 of 5 barcodes.

★I 2 of 5 = Disable

I 2 of 5 = Enable

I 2 of 5 Check Character Calculation

This option enables/disables calculation and verification of an optional I 2 of 5 check character.

★I 2 of 5 Check Character Calculation = Disable

I 2 of 5 Check Character Calculation = Check Standard (Modulo 10)

I 2 of 5 Check Character Calculation = Check German Parcel

I 2 of 5 Check Character Calculation (continued)

I 2 of 5 Check Character Calculation = Check DHL

I 2 of 5 Check Character Calculation = Check Daimler Chrysler

I 2 of 5 Check Character Calculation = Check Bosch

I 2 of 5 Check Character Calculation = Italian Post

I 2 of 5 Check Character Transmission

Enable this option to transmit the check character along with I 2 of 5 barcode data.

I 2 of 5 Check Character Transmission = Don't Send

★I 2 of 5 Check Character Transmission = Send

I 2 of 5 Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for the I 2 of 5 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

I 2 of 5 Length Control = Variable Length

I 2 of 5 Length Control = Fixed Length

★I 2 of 5 Length Control = No Check

I 2 of 5 Set Length 1

This feature specifies one of the barcode lengths for I 2 of 5 Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. The length includes the barcode's check and data characters. The length can be set from 2 to 50 characters in increments of two. For more detailed programming instructions see, Set Length on Chapter 4, References.

Table 6 provides some examples for setting Length 1.

Table 6. I 2 of 5 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	2 Characters	6 Characters	14 Characters	50 Characters
2	Pad with leading zeroes to yield two digits	02	06	14	50
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT I 2 of 5 LENGTH 1 SETTING				
5	Scan Two Characters From Appendix C	'0' and '2'	'0' and '6'	'1' and '4'	'5' AND '0'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Select I 2 of 5 Length 1 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★06 = Length 1 is 6 Characters

I 2 of 5 Set Length 2

This feature specifies one of the barcode lengths for I 2 of 5 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. The length includes the barcode's check and data characters.

The length can be set from 2 to 50 characters in increments of two. A setting of 0 specifies to ignore this length (only one fixed length). For more detailed programming instructions see "Set Length" on Chapter 4, References.

Table 7 provides examples for setting Length 2.

Table 7. I 2 of 5 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	Ignore This Length	4 Characters	14 Characters	50 Characters
2	Pad with leading zeroes to yield two digits	00	04	14	50
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT I 2 OF 5 LENGTH 2 SETTING				
5	Scan Two Characters From Appendix C	'0' and '0'	'0' and '4'	'1' and '4'	'5' AND '0'
6	Scan ENTER/EXIT PROGRAMMING MODE				


Select I 2 of 5 Length 2 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.


CANCEL

★50 = Length 2 is 50 Characters

FOLLETT 2 OF 5

The following options apply to the Follett 2 of 5 symbology.

Follett 2 of 5 Enable/Disable

Enables/Disables ability of imager to decode Follett 2 of 5 labels.

★Follett 2 of 5 = Disable

Follett 2 of 5 = Enable

INTERLEAVED 2 OF 5 CIP HR

The following options apply to the Interleaved 2 of 5 CIP HR symbology.

Interleaved 2 of 5 CIP HR Enable/Disable

Enables/Disables ability of reader to decode Interleaved 2 of 5 CIP HR labels.

★Interleaved 2 of 5 CIP HR = Disable

Interleaved 2 of 5 CIP HR = Enable

STANDARD 2 OF 5

The following options apply to the Standard 2 of 5 symbology.

Standard 2 of 5 Enable/Disable

When disabled, the reader will not read Standard 2 of 5 barcodes.

★Standard 2 of 5 = Disable

Standard 2 of 5 = Enable

Standard 2 of 5 Check Character Calculation

This option enables/disables calculation and verification of an optional Standard 2 of 5 check character.

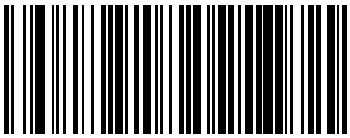
★Standard 2 of 5 Check Character Calculation = Disable

Standard 2 of 5 Check Character Calculation = Enable

Standard 2 of 5 Check Character Transmission

This feature enables/disables transmission of an optional Standard 2 of 5 check character.

Standard 2 of 5 Check Character Transmission = Don't Send



★Standard 2 of 5 Check Character Transmission = Send

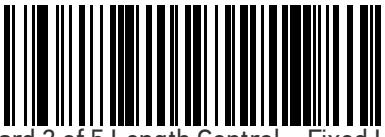
Standard 2 of 5 Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for the Standard 2 of 5 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Standard 2 of 5 Length Control = Variable Length



Standard 2 of 5 Length Control = Fixed Length

★Standard 2 of 5 Length Control = No Check

Standard 2 of 5 Set Length 1

This feature specifies one of the barcode lengths for Standard 2 of 5. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the barcode's check and data characters. The length can be set from 1 to 50 characters. For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 8 provides some examples for setting Length 1.

Table 8. Standard 2 of 5 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	01 Character	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT STANDARD 2 OF 5 LENGTH 1 SETTING				
4	Scan Two Characters From Appendix C	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select Standard 2 of 5 Length 1 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★06 = Length 1 is 6 Characters

Standard 2 of 5 Set Length 2

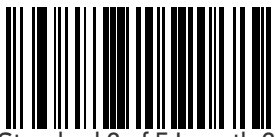
This feature specifies one of the barcode lengths for for Standard 2 of 5. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the barcode's check and data characters.

The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 9 provides examples for setting Length 2.

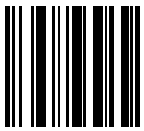
Table 9. Standard 2 of 5 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT STANDARD 2 OF 5 LENGTH 2 SETTING				
4	Scan Two Characters From Appendix C	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				



Select Standard 2 of 5 Length 2 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.



CANCEL

★50 = Length 2 is 50 Characters

INDUSTRIAL 2 OF 5

The following options apply to the Industrial 2 of 5 symbology.

Industrial 2 of 5 Enable/Disable

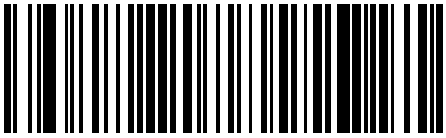
Enables/Disables ability of reader to decode Industrial 2 of 5 labels.

★Industrial 2 of 5 = Disable

Industrial 2 of 5 = Enable

Industrial 2 of 5 Check Character Calculation

Enables/Disables calculation and verification of an optional Industrial 2 of 5 check character.



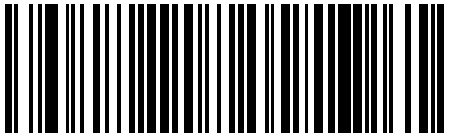
★Industrial 2 of 5 Check Character Calculation = Disable

Industrial 2 of 5 Check Character Calculation = Enable

Industrial 2 of 5 Check Character Transmission

Enables/disables transmission of an Industrial 2 of 5 check character.


Industrial 2 of 5 Check Character Transmission = Disable

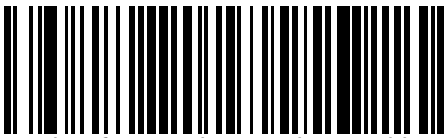

★Industrial 2 of 5 Check Character Transmission = Enable

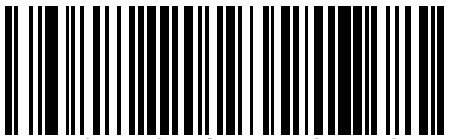
Industrial 2 of 5 Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for the Industrial 2 of 5 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.


Industrial 2 of 5 Length Control = Variable Length


Industrial 2 of 5 = Fixed Length


★Industrial 2 of 5 Length Control = No Check

Industrial 2 of 5 Set Length 1

This feature specifies one of the barcode lengths for Industrial 2 of 5. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the barcode's data characters only. The length can be set from 0 to 50 characters. For more detailed programming instructions see, "Set Length" on Chapter 4, References.

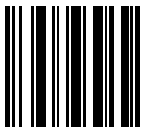
Table 10 provides some examples for setting Length 1.

Table 10. Industrial 2 of 5 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	Scan SELECT INDUSTRIAL 2 OF 5 LENGTH 1 SETTING				
4	**Scan Two Characters From Appendix C**	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Industrial 2 of 5 Set Length 1 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.



CANCEL

★06 = Length 1 is 6 Characters

Industrial 2 of 5 Set Length 2

This feature specifies one of the barcode lengths for Industrial 2 of 5. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the barcode's check, data, and full-ASCII shift characters. The length does not include start/stop characters.

The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 11 provides examples for setting Length 2.

Table 11. Industrial 2 of 5 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT INDUSTRIAL 2 OF 5 LENGTH 2 SETTING				
4	Scan Two Characters From Appendix C	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select Industrial 2 of5 Length 2 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★50 = Length 2 is 50 Characters

CODE IATA

The following options apply to the IATA symbology.

IATA Enable/Disable

Enables/Disables the ability of the reader to decode IATA labels.

★IATA = Disable

IATA = Enable

IATA Check Character Transmission

Enables/Disables calculation and verification of an optional Industrial 2 of 5 check character.

IATA Check Character Transmission = Disable

★IATA Check Character Transmission = Enable

DATALOGIC 2 OF 5

The following options apply to the Datalogic 2 of 5 symbology.

Datalogic 2 of 5 Enable/Disable

When disabled, the reader will not read Datalogic 2 of 5 barcodes.

★Datalogic 2 of 5 = Disable

Datalogic 2 of 5 = Enable

Datalogic 2 of 5 Check Character Calculation

This option enables/disables calculation and verification of an optional Datalogic 2 of 5 check character.

★Datalogic 2 of 5 Check Character Calculation = Disable

Datalogic 2 of 5 Check Character Calculation = Enable

Datalogic 2 of 5 Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for the Datalogic 2 of 5 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Datalogic 2 of 5 Length Control = Variable Length

Datalogic 2 of 5 Length Control = Fixed Length

★Datalogic 2 of 5 Length Control = No Check

Datalogic 2 of 5 Set Length 1

This feature specifies one of the barcode lengths for Datalogic 2 of 5. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. The length includes the barcode's check and data characters. The length can be set from 2 to 50 characters. For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 12 provides some examples for setting Length 1.

Table 12. Datalogic 2 of 5 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	2 Characters	6 Characters	14 Characters	50 Characters
2	Pad with leading zeroes to yield two digits	02	06	14	50
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT Datalogic 2 of 5 LENGTH 1 SETTING				
5	Scan Two Characters From Appendix C	'0' and '2'	'0' and '6'	'1' and '4'	'5' AND '0'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Select Datalogic 2 of 5 Length 1 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★01 = Length 1 is 1 Characters

Datalogic 2 of 5 Set Length 2

This feature specifies one of the barcode lengths for Datalogic 2 of 5 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. The length includes the barcode's check and data characters.

The length can be set from 2 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length). For more detailed programming instructions see "Set Length" on Chapter 4, References.

Table 13 provides examples for setting Length 2.

Table 13. Datalogic 2 of 5 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	Ignore This Length	4 Characters	14 Characters	50 Characters
2	Pad with leading zeroes to yield two digits	00	04	14	50
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT DATALOGIC 2 OF 5 LENGTH 2 SETTING				
5	Scan Two Characters From Appendix C	'0' and '0'	'0' and '4'	'1' and '4'	'5' AND '0'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Select Datalogic 2 of 5 Length 2 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★50 = Length 2 is 50 Characters

CODABAR

The following options apply to the Codabar symbology.

Codabar Enable/Disable

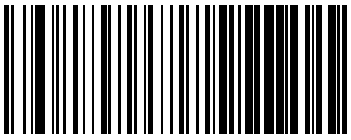
When disabled, the reader will not read Codabar barcodes.

★Codabar = Disable

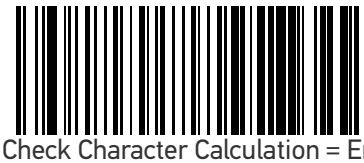
Codabar = Enable

Codabar Check Character Calculation

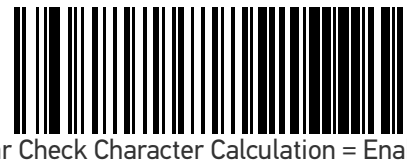
Enable this option to enables/disables calculation and verification of an optional Codabar check character. When disabled, any check character in the label is treated as a data character



★Codabar Check Character Calculation = Don't Calculate



Codabar Check Character Calculation = Enable AIM standard check char.



Codabar Check Character Calculation = Enable Modulo 10 check char.

Codabar Check Character Transmission

Enable this option to transmit the check character along with Codabar barcode data.

Codabar Check Character Transmission = Don't Send

★Codabar Check Character Transmission = Send

Codabar Start/Stop Character Transmission

Enable this option to enable/disable transmission of Codabar start and stop characters.

Codabar Start/Stop Character Transmission = Don't Transmit

★Codabar Start/Stop Character Transmission = Transmit

Codabar Start/Stop Character Match

When enabled, this option requires that start and stop characters match.

★Codabar Start/Stop Character Match = Don't Require Match

Codabar Start/Stop Character Match = Require Match

Codabar Quiet Zones

Specifies the number of quiet zones for Codabar labels. Quiet zones are blank areas at the ends of a barcode and are typically 10 times the width of the narrowest bar or space in the label.

★Codabar Quiet Zones = Auto

Codabar Quiet Zones = Small Quiet Zones on two sides

Codabar Length Control

This feature specifies either variable length decoding or fixed length decoding for the Codabar symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Codabar Length Control = Variable Length

Codabar Length Control = Fixed Length

★Codabar Length Control = No Check

Codabar Set Length 1

This feature specifies one of the barcode lengths for Codabar. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the barcode's start, stop, check and data characters. The length must include at least one data character. The length can be set from 3 to 50 characters. For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 14 provides some examples for setting Length 1.

Table 14. Codabar Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	03 Characters	09 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT CODABAR LENGTH 1 SETTING				
4	Scan Two Characters From Appendix C	'0' and '3'	'0' and '9'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select Codabar Length 1 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★01 = Length 1 is 1 Character

Codabar Set Length 2

This feature specifies one of the barcode lengths for Codabar. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. The length includes the barcode's start, stop, check and data characters. The length must include at least one data character.

The length can be set from 3 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 15 provides examples for setting Length 2.

Table 15. Codabar Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting (and pad with leading zeroes)	00 Ignore This Length	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT CODABAR LENGTH 2 SETTING				
4	Scan Two Characters From Appendix C	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select Codabar Length 2 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★50 = Length 2 is 50 Characters

ABC CODABAR

The following options apply to the ABC Codabar symbology.

ABC Codabar Enable/Disable

Enables/Disables ability of reader to decode ABC Codabar labels.

★ABC Codabar = Disable

ABC Codabar = Enable

ABC Codabar Concatenation Mode

Specifies the concatenation mode between Static and Dynamic.

★ABC Codabar Concatenation Mode = Static

ABC Codabar Concatenation Mode = Dynamic

ABC Codabar Dynamic Concatenation Timeout

Specifies the timeout in 10-millisecond ticks used by the ABC Codabar Dynamic Concatenation Mode.

ABC Codabar Dynamic Concatenation Timeout = 50 msec

ABC Codabar Dynamic Concatenation Timeout = 100 msec

★ABC Codabar Dynamic Concatenation Timeout = 200 msec

ABC Codabar Dynamic Concatenation Timeout = 500 msec

ABC Codabar Dynamic Concatenation Timeout = 750 msec

ABC Codabar Dynamic Concatenation Timeout = 1 Second

ABC Codabar Force Concatenation

Forces labels starting or ending with D to be concatenated.

★ABC Codabar Force Concatenation = Disable

ABC Codabar Force Concatenation = Enable

CODE 11

The following options apply to the Code 11 symbology.

Code 11 Enable/Disable

When disabled, the reader will not read Code 11 barcodes.

★Code 11 = Disable

Code 11 = Enable

Code 11 Check Character Calculation

This option enables/disables calculation and verification of optional Code 11 check character.

Code 11 Check Character Calculation = Disable

Code 11 Check Character Calculation = Check C

Code 11 Check Character Calculation = Check K

★Code 11 Check Character Calculation = Check C and K

Code 11 Check Character Transmission

This feature enables/disables transmission of an optional Code 11 check character.

Code 11 Check Character Transmission = Don't Send

★Code 11 Check Character Transmission = Send

Code 11 Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for the Code 11 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Code 11 Length Control = Variable Length

Code 11 Length Control = Fixed Length

★Code 11 Length Control = No Check

Code 11 Set Length 1

This feature specifies one of the barcode lengths for Code 11. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the barcode's check and data characters. The length can be set from 2 to 50 characters. For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 16 provides some examples for setting Length 1.

Table 16. Code 11 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting (pad with leading zeroes)	02 Characters	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT CODE 11 LENGTH 1 SETTING				
4	Scan Two Characters From Appendix C	'0' and '2'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select Code 11 Set Length 1 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★01 = Length 1 is 1 Character

Code 11 Set Length 2

This feature specifies one of the barcode lengths for Code 11. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the barcode's check and data characters.

The length can be set from 2 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length). For more detailed programming instructions see "Set Length" on Chapter 4, References.

Table 17 provides examples for setting Length 2.

Table 17. Code 11 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting (pad with leading zeroes)	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT CODE 11 LENGTH 2 SETTING				
4	Scan Two Characters From Appendix C	'0' and '0'	'0' and '7'	'0' and 'F'	'3' AND 2'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select Code 11 Length 2 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★50 = Length 2 is 50 Characters

GS1 DATABAR™ OMNIDIRECTIONAL

The following options apply to the GS1 DataBar™ Omnidirectional (formerly RSS-14) symbology.

GS1 DataBar™ Omnidirectional Enable/Disable

When disabled, the reader will not read GS1 DataBar™ Omnidirectional barcodes.

★GS1 DataBar™ Omnidirectional = Disable

GS1 DataBar™ Omnidirectional = Enable

GS1 DataBar™ Omnidirectional GS1-128 Emulation

When enabled, GS1 DataBar™ Omnidirectional barcodes will be translated to the GS1-128 label data format.

★GS1 DataBar™ Omnidirectional GS1-128 Emulation = Disable

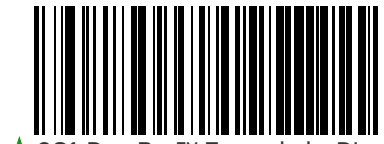
GS1 DataBar™ Omnidirectional GS1-128 Emulation = Enable

GS1 DATABAR™ EXPANDED

The following options apply to the GS1 DataBar™ Expanded (formerly RSS Expanded) symbology.

GS1 DataBar™ Expanded Enable/Disable

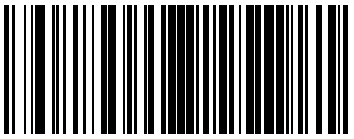
When disabled, the reader will not read GS1 DataBar™ Expanded barcodes.


★GS1 DataBar™ Expanded = Disable


GS1 DataBar™ Expanded = Enable

GS1 DataBar™ Expanded GS1-128 Emulation

When enabled, GS1 DataBar™ Expanded barcodes will be translated to the GS1-128 label data format.


★GS1 DataBar™ Expanded GS1-128 Emulation = Disable


GS1 DataBar™ Expanded GS1-128 Emulation = Enable

GS1 DataBar™ Expanded Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for the GS1 DataBar™ Expanded symbology.

Variable Length: For variable-length decoding, a minimum length may be set.

Fixed Length: For fixed-length decoding, two different lengths may be set.

GS1 DataBar™ Expanded Length Control = Variable Length

GS1 DataBar™ Expanded Length Control = Fixed Length

★GS1 DataBar™ Expanded Length Control = No check

GS1 DataBar™ Expanded Set Length 1

This feature specifies one of the barcode lengths for GS1 DataBar™ Expanded. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the barcode's data characters only. The length can be set from 1 to 74 characters. For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 18 provides some examples for setting Length 1.

Table 18. GS1 DataBar™ Expanded Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	01 Character	07 Characters	52 Characters	74 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	Scan SELECT GS1 DataBar™ EXPANDED LENGTH 1SETTING				
4	**Scan Two Characters From Appendix C**	'0' and '1'	'0' and '7'	'5' and '2'	'7' AND '4'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select GS1 DataBar™ Expanded Set Length 1 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★01 = Length 1 is 1 Character

GS1 DataBar™ Expanded Set Length 2

This feature specifies one of the barcode lengths for GS1 DataBar™ Expanded Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the barcode's data characters only. The length can be set from 1 to 74 characters. A setting of 0 specifies to ignore this length (only one fixed length). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 19 provides examples for setting Length 2.

Table 19. GS1 DataBar™ Expanded Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	00 (ignore second length)	07 Characters	52 Characters	74 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT GS1 DataBar™ EXPANDED LENGTH 2 SETTING				
4	Scan Two Characters From Appendix C	'0' and '0'	'0' and '7'	'5' and '2'	'7' and '4'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select GS1 DataBar™ Expanded Set Length 2 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★74 = Length 2 is 74 Characters

GS1 DATABAR™ LIMITED

The following options apply to the GS1 DataBar™ Limited (formerly RSS Limited) symbology.

GS1 DataBar™ Limited Enable/Disable

When disabled, the reader will not read GS1 DataBar™ Limited barcodes.

★GS1 DataBar™ Limited = Disable

GS1 DataBar™ Limited = Enable

GS1 DataBar™ Limited GS1-128 Emulation

When enabled, GS1 DataBar™ Limited barcodes will be translated to the GS1-128 label data format.

★GS1 DataBar™ Limited GS1-128 Emulation = Disable

GS1 DataBar™ Limited GS1-128 Emulation = Enable

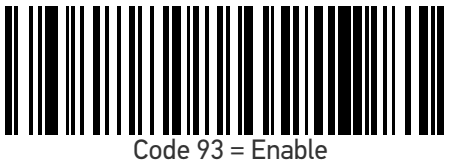
CODE 93

The following options apply to the Code 93 symbology.

Code 93 Enable/Disable

Enables/Disables ability of reader to decode Code 93 labels.

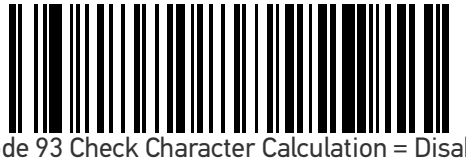
★Code 93 = Disable



Code 93 = Enable

Code 93 Check Character Calculation

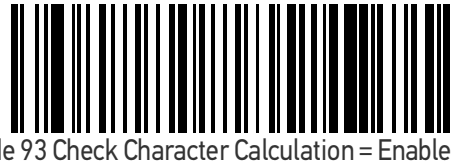
Enables/disables calculation and verification of an optional Code 93 check character.



Code 93 Check Character Calculation = Disable

Code 93 Check Character Calculation = Enable Check C

Code 93 Check Character Calculation = Enable Check K



★Code 93 Check Character Calculation = Enable Check C and K

Code 93 Check Character Transmission

Enables/disables transmission of an optional Code 93 check character.

★Code 93 Check Character Transmission = Disable

Code 93 Check Character Transmission = Enable

Code 93 Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for the Code 93 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Code 93 Length Control = Variable Length

Code 93 = Fixed Length

★Code 93 Length Control = No Check

Code 93 Set Length 1

Specifies one of the barcode lengths for Code 93. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the barcode's data characters only. The length can be set from 01 to 50 characters. For more detailed programming instructions see "Set Length" on Chapter 4, References.

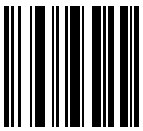
Table 20 provides some examples for setting Length 1.

Table 20. Code 93 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	01 Characters	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT CODE 93 LENGTH 1 SETTING				
4	Scan Two Characters From Appendix C	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				


Select Code 93 Set Length 1 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.


CANCEL

★01 = Length 1 is 1 Character

Code 93 Set Length 2

This feature specifies one of the barcode lengths for Code 93. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the barcode's check, data, and full-ASCII shift characters. The length does not include start/stop characters. The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 21 provides examples for setting Length 2.

Table 21. CODE 93 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT CODE 93 LENGTH 2 SETTING				
4	Scan Two Characters From Appendix C	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select Code 93 Length 2 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★50 = Length 2 is 50 Characters

Code 93 Quiet Zones

Enables/disables quiet zones for Code 93.

Code 93 Quiet Zones = No Quiet Zones

★Code 93 Quiet Zones = Auto

MSI

The following options apply to the MSI symbology.

MSI Enable/Disable

Enables/Disables ability of reader to decode MSI labels.

★MSI = Disable

MSI = Enable

MSI Check Character Calculation

Enables/Disables calculation and verification of an optional MSI check character.

MSI Check Character Calculation = Disable

★MSI Check Character Calculation = Enable Mod10

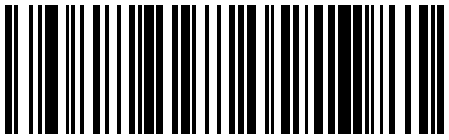
MSI Check Character Calculation = Enable Mod11/10

MSI Check Character Calculation = Enable Mod10/10

MSI Check Character Transmission

Enables/disables transmission of an MSI check character.


MSI Check Character Transmission = Disable


★MSI Check Character Transmission = Enable

MSI Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for the MSI symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.


MSI Length Control = Variable Length


MSI = Fixed Length


★MSI Length Control = No Check

MSI Set Length 1

This feature specifies one of the barcode lengths for MSI. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the barcode's data characters only. The length can be set from 01 to 50 characters. For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 22 provides some examples for setting Length 1.

Table 22. MSI Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	01 Characters	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT MSI LENGTH 1 SETTING				
4	Scan Two Characters From Appendix C	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select MSI Set Length 1 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★01 = Length 1 is 1 Character

MSI Set Length 2

This feature specifies one of the barcode lengths for MSI. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the barcode's check, data, and full-ASCII shift characters. The length does not include start/stop characters.

The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 23 provides examples for setting Length 2.

Table 23. MSI Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT MSI LENGTH 2 SETTING				
4	Scan Two Characters From Appendix C	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select MSI Length 2 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★50 = Length 2 is 50 Characters

PLESSEY

The following options apply to the Plessey symbology.

Plessey Enable/Disable

Enables/Disables ability of reader to decode Plessey labels.

★Plessey = Disable

Plessey = Enable

Plessey Check Character Calculation

Enables/Disables calculation and verification of an optional Plessey check character.

Plessey Check Character Calculation = Disable

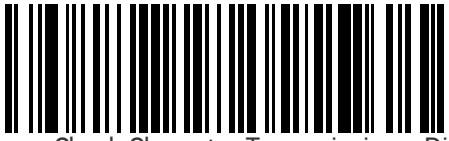
★Plessey Check Character Calculation =
Enable Plessey std. check char. verification

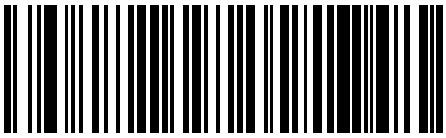
Plessey Check Character Calculation =
Enable Anker check char. verification

Plessey Check Character Calculation =
Enable Plessey std. and Anker check char verification

Plessey Check Character Transmission

Enables/disables transmission of an MSI check character.


Plessey Check Character Transmission = Disable


★Plessey Check Character Transmission = Enable

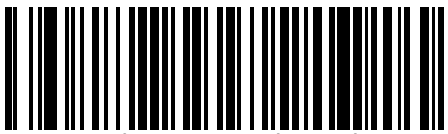
Plessey Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for the Plessey symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.


Plessey Length Control = Variable Length


Plessey = Fixed Length


★Plessey Length Control = No Check

Plessey Set Length 1

This feature specifies one of the barcode lengths for Plessey Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the barcode's data characters only. The length can be set from 01 to 50 characters. For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Table 24 provides some examples for setting Length 1.

Table 24. Plessey Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	01 Characters	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT Plessey LENGTH 1 SETTING				
4	Scan Two Characters From Appendix C	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select Plessey Set Length 1 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★01 = Length 1 is 1 Character

Plessey Set Length 2

This feature specifies one of the barcode lengths for Plessey Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the barcode's check, data, and full-ASCII shift characters. The length does not include start/stop characters. For more detailed programming instructions see, "Set Length" on Chapter 4, References.

The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 25 provides examples for setting Length 2.

Table 25. Plessey Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT PLESSEY LENGTH 2 SETTING				
4	Scan Two Characters From Appendix C	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select Plessey Length 2 Setting

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★50 = Length 2 is 50 Characters

2D SYMBOLOGIES

SECTION CONTENTS	

The reader supports the following 2D symbologies (bar code types). Symbology-dependent options for each symbology are included in this chapter.

2D GLOBAL FEATURES

The following features are common to all, or in some cases, most of the available 2D symbologies. Default settings are indicated at each feature/option with a green arrow. To set most features:

1. Scan the ENTER/EXIT PROGRAMMING bar code at the top of applicable programming pages.
2. Scan the correct bar code to set the desired programming feature or parameter. You may need to cover unused bar codes on the page, and possibly the facing page, to ensure that the reader reads only the bar code you intend to scan.
3. If additional input parameters are needed, go to Appendix C, and scan the appropriate characters from the keypad.

NOTE: Additional information about many features can be found in the "References" chapter.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING bar code to exit Programming Mode.

2D Structured Append

Enables/disables ability of reader to append multiple 2D Codes labels in a structured format. The structured append property is globally applied to the following symbologies, if these are enabled:

- Aztec
- Data Matrix
- PDF 417
- QR Code

★Structured Append = Disable

Structured Append = Enable

2D Normal/Inverse Symbol Control

Specifies the options available for decoding normal/negative printed 2D symbols. This configuration item applies globally to all the 2D symbologies that support that feature according to Standard AIM Specification: Data Matrix, QR, MicroQR, Aztec and Han Xin Code .

Normal/Inverse Symbol Control = Normal

Normal/Inverse Symbol Control = Inverse

★Normal/Inverse Symbol Control = Both Normal and Inverse

2D SYMBOLOGY SELECTION

AZTEC CODE

Aztec Code Enable / Disable

Enables/disables the ability of the reader to decode Aztec Code labels.

★Aztec Code = Disable

Aztec Code = Enable

Aztec Code Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Aztec Code Length Control = Variable Length

Aztec Code Length Control = Fixed Length

★Aztec Code Length Control = No Check

Aztec Code Set Length 1

Specifies one of the bar code lengths for Aztec Code. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 3,832 characters in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see "Set Length" on Chapter 4, References.

Select Aztec Code Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0001 = Length 1 is 1 Character

Aztec Code Set Length 2

This feature specifies one of the bar code lengths for Aztec Code. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 3,832 characters in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Select Aztec Code Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★Length 2 is 3,832 Characters

HAN XIN CODE

Han Xin Code Enable / Disable

Enables/disables the ability of the reader to decode Han Xin Code labels.

★Han Xin Code = Disable

Han Xin Code = Enable

Han Xin Code: Code Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Han Xin Code Length Control = Variable Length

Han Xin Code Length Control = Fixed Length

★Han Xin Code Length Control = No Check

Han Xin Code Set Length 1

Specifies one of the bar code lengths for Han Xin Code. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 7,827 characters in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Select Han Xin Code Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0001 = Length 1 is 1 Character

Han Xin Code Set Length 2

This feature specifies one of the bar code lengths for Han Xin Code. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 7,827 characters in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Select Han Xin Code Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★Length 2 is 7,827 Characters

DATA MATRIX

Data Matrix Enable / Disable

Enables/disables ability of reader to decode Data Matrix labels.

Data Matrix = Disable

★Data Matrix = Enable

Data Matrix Square/Rectangular Style

Specifies the options available when reading Data Matrix with different form factors. Choices are:

- Square Style
- Rectangular Style
- Both Square and Rectangular Style

The configuration item can also be configured as a bit mask to filter one or more Data Matrix labels with different symbol size AND shape styles.

Data Matrix Dimensions Mask = Square Style

Data Matrix Dimensions Mask = Rectangular Style

★Data Matrix Dimensions Mask = Both Square and Rectangular Style

Data Matrix Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Data Matrix Length Control = Variable Length

Data Matrix Length Control = Fixed Length

★Data Matrix Length Control = No Check

Data Matrix Set Length 1

Specifies one of the bar code lengths for Data Matrix. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 3,116 characters in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see "Set Length" on Chapter 4, References.

Select Data Matrix Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0001 = Length 1 is 1 Character

Data Matrix Set Length 2

This feature specifies one of the bar code lengths for Data Matrix. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 3,116 characters in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For detailed programming instructions see, "Set Length" on Chapter 4, References.

Select Data Matrix Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★Length 2 is 3,116 Characters

DOTCODE

DotCode Enable / Disable

Enables/disables ability of reader to decode DotCode labels.

★DotCode = Disable

DotCode = Enable

DotCode Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DotCode Length Control = Variable Length

DotCode Length Control = Fixed Length

★DotCode Length Control = No Check

DotCode Set Length 1

Specifies one of the bar code lengths for DotCode. Length 1 is the minimum label length if in Variable Length, or the first fixed length if in Fixed Length. Characters can be set from 0001 to 9999 characters (default: 1) in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). See "Set Length" on Chapter 4, References for more detailed programming instructions.

Select DotCode Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0001 = Length 1 is 1 Character

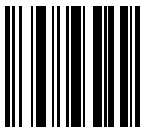
DotCode Set Length 2

This feature specifies one of the bar code lengths for DotCode. Length 2 iis the minimum label length if in Variable Length, or the first fixed length if in Fixed Length. Characters can be set from 0001 to 9999 characters (default: 7000) in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). See "Set Length" on Chapter 4, References for more detailed programming instructions.


Select DotCode Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.


CANCEL

★7000 = Length 2 is 7000 Characters

DotCode High Resolution

Enables or disables the high resolution configuration for detecting codes. Useful for decoding high resolution DotCode.

★DotCode High Resolution = Disable

DotCode High Resolution = Enable

DotCode Constant Position

Enables or disables a mode useful for decoding a series of DotCodes that will be presented in about the same area of the field of view.

★DotCode Constant Position = Disable

DotCode Constant Position = Enable

DotCode Maximum Dot Diameter

This feature specifies the maximum dot diameter of a DotCode to be decoded: the measurement unit is pixel and it refers to the diameter of the dots as they appear on the acquired image. Characters can be set from 0001 to 0512 in increments of 1 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting diameter = 2). Default value is 0016.

Maximum Dot Diameter

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0016 = Maximum Dot Diameter is 16 pixels

DotCode Minimum Dot Diameter

This feature specifies the minimum dot diameter of a DotCode to be decoded: the measurement unit is pixel and it refers to the diameter of the dots as they appear on the acquired image. Characters can be set from 0001 to 0512 in increments of 1 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting diameter = 2). Default value is 0001.

Minimum Dot Diameter

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0001 = Minimum Dot Diameter is 1 pixel

MAXICODE

Maxicode Enable / Disable

Enables/disables ability of reader to decode Maxicode labels.

★Maxicode = Disable

Maxicode = Enable

Maxicode Primary Message Transmission

Enables/disables the transmission of only the Primary Message when the Secondary Message is not readable.

★Maxicode Primary Message Transmission = Disable

Maxicode Primary Message Transmission = Enable

Maxicode Length Control

This feature specifies either variable length decodin, fixed length decoding or no check length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Maxicode Length Control = Variable Length

Maxicode Length Control = Fixed Length

★Maxicode Length Control = No Check

Maxicode Set Length 1

Specifies one of the bar code lengths for Maxicode. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 0145 characters in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Select Maxicode Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0001 = Length 1 is 1 Character

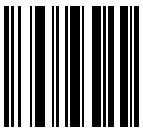
Maxicode Set Length 2

This feature specifies one of the bar code lengths for Maxicode. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 0138 characters in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Select Maxicode Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.



CANCEL

★Length 2 is 0138 Characters

PDF417

PDF417 Enable / Disable

Enables/disables the ability of the reader to decode PDF417 labels.

PDF417 = Disable

★PDF417 = Enable

PDF417 Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

PDF417 Length Control = Variable Length

PDF417 Length Control = Fixed Length

★PDF417 Length Control = No Check

PDF417 Set Length 1

Specifies one of the bar code lengths for PDF417. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. Characters can be set from 0001 to 2,710 characters (pad with zeroes) in increments of 01. Any value greater than 2,710 will be considered to be 2,710. Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see "Set Length" on Chapter 4, References.

Select PDF417 Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0001 = Length 1 is 1 Character

PDF417 Set Length 2

This feature specifies one of the bar code lengths for PDF417. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the bar code's check, data, and full-ASCII shift characters. The length does not include start/stop characters. Characters can be set from 01 to 2,710 characters (pad with zeroes) in increments of 01. Any value greater than 2,710 will be considered to be 2,710. Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Select PDF417 Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★Length 2 is 2,710 Characters

MICRO PDF417

Micro PDF417 Enable / Disable

Enables/disables the ability of the reader to decode Micro PDF417 labels.

★Micro PDF417 = Disable

Micro PDF417 = Enable

Micro PDF417 Code 128 GS1-128 Emulation

Specifies which AIM ID to use for MicroPDF labels when doing Code 128 or GS1-128 emulation.

Emulation choices are:

- Micro PDF AIM ID and label type
- Code 128 / EAN128 AIM Id and label type

★Micro PDF417 Code 128 GS1-128 Emulation = Micro PDF AIM ID and label type

Micro PDF417 Code 128 GS1-128 Emulation = Code 128 / EAN128 AIM ID and label type

Micro PDF417 Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Micro PDF417 Length Control = Variable Length

Micro PDF417 Length Control = Fixed Length

★Micro PDF417 Length Control = No Check

Micro PDF417 Set Length 1

Specifies one of the bar code lengths for Micro PDF417. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. Characters can be set from 0001 to 0366 characters (pad with zeroes) in increments of 01. Any value greater than 0366 will be considered to be 0366. Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Select Micro PDF417 Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0001 = Length 1 is 1 Character

Micro PDF417 Set Length 2

This feature specifies one of the bar code lengths for Micro PDF417. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length includes the bar code's data characters only. Characters can be set from 0001 to 0366 characters (pad with zeroes) in increments of 01. Any value greater than 0366 will be considered to be 0366. Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see, "Set Length"on Chapter 4, References.

Select Micro PDF417 Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★Length 2 is 0366 Characters

QR CODE

QR Code Enable / Disable

Enables/disables the ability of the reader to decode QR Code labels.

QR Code = Disable

★QR Code = Enable

QR Code Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

QR Code Length Control = Variable Length

QR Code Length Control = Fixed Length

★QR Code Length Control = No Check

QR Code Set Length 1

Specifies one of the bar code lengths for QR Code Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 7,089 characters in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Select QR Code Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0001 = Length 1 is 1 Character

QR Code Set Length 2

This feature specifies one of the bar code lengths for QR Code Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 7,089 characters in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Select QR Code Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★Length 2 is 7,089 Characters

MICRO QR CODE

Micro QR Code Enable/Disable

Enables/disables the ability of the reader to decode Micro QR Code labels.

★Micro QR Code = Disable

Micro QR Code = Enable

Micro QR Code Length Control

This feature specifies either variable length decoding, fixed length decoding or no check length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Micro QR Code Length Control = Variable Length

Micro QR Code Length Control = Fixed Length

★Micro QR Code Length Control = No Check

Micro QR Code Set Length 1

Specifies one of the bar code lengths for Micro QR Code. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 0035 characters in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Select Micro QR Code Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★0001 = Length 1 is 1 Character

Micro QR Code Set Length 2

This feature specifies one of the bar code lengths for Micro QR Code. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 0035 characters in increments of 0001 (pad with zeroes). Always use four digits (e.g.: scan the barcodes '0', '0', '0', '2' for setting length = 2). For more detailed programming instructions see, "Set Length" on Chapter 4, References.

Select Micro QR Code Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix C representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

★Length 2 is 0035 Characters

DIGITAL WATERMARK

Enables or disables the capability to decode images including Digimarc® digital watermark technology. When enabling Digimarc, also make sure to have enabled the EAN 13, EAN 8, UPC-A, UPC-E, CODE 128, GS1-128 and GS1 DataBar™ Expanded symbologies. For additional details and configuration options please contact technical support for assistance.

★Digimarc Disable

Digimarc Enable

NOTE: For decoding Digimarc® a red illumination is required.

NOTE: When enabling Digimarc® also make sure that the following symbologies are enabled: EAN 13, EAN 8, UPC-A, UPC-E, CODE 128, GS1-128, GS1 DataBar™ Expanded.

OCR

Enables or disables the Optical Character Recognition (OCR) capability of the decoder. For additional details and configuration options please contact technical support for assistance.

★OCR Disable

OCR Enable

UCC COMPOSITE

UCC Optional Composite Timer

Specifies the amount of time the system will wait for the stacked part of a UCC Composite label before transmitting the linear label without an add-on.

★UCC Optional Composite Timer = Timer Disabled

UCC Optional Composite Timer = 100msec

UCC Optional Composite Timer = 200msec

UCC Optional Composite Timer = 300msec

UCC Optional Composite Timer = 400msec

UCC Optional Composite Timer = 500msec

POSTAL CODE SELECTION

Enables/disables the ability of the scanner to decode labels of a specific postal symbology.

- Postnet
- Planet
- Royal Mail
- Kix
- Australian Post
- Japanese Post
- IMB
- Swedish Post
- Portuguese Post
- PostNet BB
- NewZealand Postal

PostNet = Enable

★PostNet = Disable

PlaNet = Enable

★PlaNet = Disable

RoyalMail = Enable

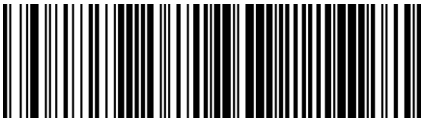
★RoyalMail = Disable

Postal Code Selection (continued)

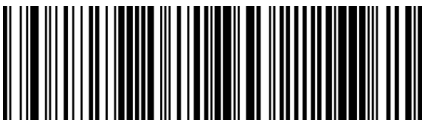
Kix = Enable

★Kix = Disable

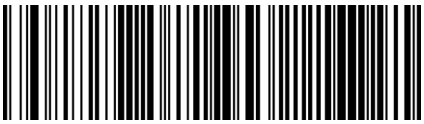
Australian Post = Enable



★Australian Post = Disable



Japanese Post = Enable



★Japanese Post = Disable

Postal Code Selection (continued)

IMB Post = Enable

★IMB Post = Disable

Swedish Postal = Enable

★Swedish Postal = Disable

Portugal Post = Enable

★Portugal Post = Disable

Postnet BB Control

Controls the ability of the scanner to decode B and B' fields of Postnet labels.

PostNet BB = Enable

★PostNet BB = Disable

NewZealand Postal Control

Controls the ability of the scanner to decode NewZealand Postal labels.

NewZealand Postal = Enable

★NewZealand Postal = Disable

NOTES

CHAPTER 4
REFERENCES

This section contains explanations and examples of selected bar code features. See Configuration Using Bar Codes for the actual bar code labels used to configure the scanner.

SECTION CONTENTS

RS-232 PARAMETERS

RS-232 Only

Baud Rate

Baud rate is the number of bits of data transmitted per second. Set the scanner's baud rate to match the baud rate setting of the host device. With an improper baud rate setting, data may not reach the host correctly.

Data Bits

This parameter allows the reader to interface with devices requiring a 7-bit or 8-bit ASCII protocol for sending and receiving data.

Stop Bits

The stop bit(s) at the end of each transmitted character marks the end of transmission of one character and prepares the receiving device for the next character in the serial data stream. The number of stop bits selected (one or two) depends on the number the receiving terminal is programmed to accommodate. Set the number of stop bits to match host device requirements.

Parity

This feature specifies parity required for sending and receiving data. A parity check bit is the most significant bit of each ASCII coded character. Select the parity type according to host device requirements.

- Select None when no parity bit is required.
- Select Odd parity and the parity bit value is set to 0 or 1, based on data, to ensure that an odd number of 1 bits are contained in the coded character.
- Select Even parity ASCII Chart the parity bit value is set to 0 or 1, based on data, to ensure that an even number of 1 bits are contained in the coded character.

Handshaking Control

The data interface consists of an RS-232 port designed to operate either with or without the hardware handshaking lines, Request to Send (RTS), and Clear to Send (CTS). Handshaking Control includes the following options:

- - None - no hardware handshaking lines, only TX and RX communication lines are used.
- RTS — RTS is asserted during transmissions. CTS is ignored.
- RTS/CTS — RTS is asserted during transmissions. CTS gates transmissions.
- RTS On/CTS — RTS is always asserted. CTS gates transmissions.

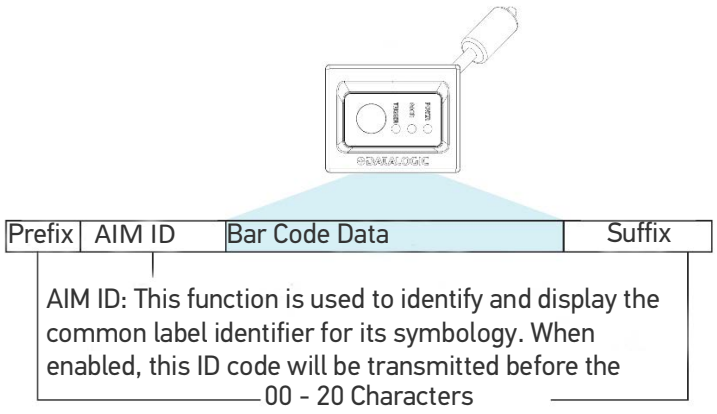
DATA FORMAT

Data Editing

When a bar code is scanned, additional information can be sent to the host computer along with the bar code data. This combination of bar code data and supplementary user-defined data is called a “message string.” The Data Editing features can be used to build specific user-defined data into a message string.

There are several types of selectable data characters that can be sent before and after scanned data. You can specify if they should be sent with all symbologies, or only with specific symbologies. The following shows the available elements you can add to a message string:

Figure 4. Breakdown of a Message String



NOTE: Additional advanced editing is available. Contact Technical Support (see page 3) for more information.

Please Keep In Mind...

- Modifying a message string is not a mandatory requirement. Data editing is a sophisticated feature allowing highly customizable output for advanced users. Factory default settings for data editing is typically set to NONE.
- A prefix or suffix may be applied across all symbologies (set via the Global features in Configuration Using Bar Codes).
- You can add any character from the ASCII Chart (from 00-FF) on the inside back cover of this manual as a prefix or suffix.
- Enter prefixes and suffixes in the order in which you want them to appear on the output.

Global Prefix/Suffix

Up to 20 ASCII characters may be added as a prefix (in a position before the bar code data) and/or as a suffix (in a position following the bar code data) as indicated.

Example: Setting a Prefix

In this example, we'll set a prefix for all symbologies.

1. Determine which ASCII character(s) are to be added to scanned bar code data. In this example, we'll add a dollar sign ('$') as a prefix.
2. Go to page 54 and scan the ENTER/EXIT PROGRAMMING MODE bar code, then scan the SET GLOBAL PREFIX bar code.
3. Reference the ASCII Chart on the inside back cover of this manual to find the hex value assigned to the desired character. The corresponding hex number for the '$' character is 24. To enter this selection code, scan the '2' and '4' bar codes from Appendix C.

NOTE: If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

4. If less than the expected string of 20 characters are selected, scan the ENTER/EXIT bar code to terminate the string.
5. Scan the ENTER/EXIT bar code once again to exit Programming Mode.
6. The resulting message string would appear as follows:
   Scanned bar code data: **12345**
   Resulting message string output: **$12345**

Global AIM ID

NOTE: This feature enables/disables addition of AIM IDs for all symbology types.

AIM label identifiers (as opposed to custom characters you select yourself as with label identifiers) can be included with scanned bar code data. AIM label identifiers consist of three characters as follows:

- A close brace character (ASCII ‘]’), followed by...
- A code character (see the table below), followed by...
- A modifier character (the modifier character is symbol dependent

SYMBOLOGY	CHAR	SYMBOLOGY	CHAR
UPC/EAN	E[a]	Code 128/GS1-128	C
Code 39 and Code 32	A	DataBar Omnidirectional, DataBar Expanded	e
Codabar	F	Standard 2 of 5	S
Interleaved 2 of 5	I	ISBN	X[b]
Code 93	G	Code 11	H

a. UPC-A and UPC-E labels are converted to EAN 13 when adding AIM IDs.
b. ISBN (X with a 0 modifier character)

SCANNING FEATURES

Scan Mode

Selects the scan operating mode for the reader. Selections are:

Trigger Single: scanning is activated when the button is pushed or through a DESP command or through an external trigger (DSB045X models only). When the device is triggered, AIM and illumination are turned on and the scanner attempts to read a label. Scanning is activated until one of the following events occurs:

- the programmable Scanning Active Time has elapsed.
- a label has been read
- the trigger is deactivated (button released, stop command, external trigger line low.)

Trigger Hold Multiple : When the trigger is pulled, scanning starts and the product scans until the trigger is released or Scanning Active Time has elapsed. Reading a label does not disable scanning. Double Read Timeout prevents undesired multiple reads of the same label while in this mode.

Trigger Pulse Multiple: When the trigger is pulled, continuous scanning is activated until Scanning Active Time has elapsed or the trigger has been released and pulled again. Double Read Timeout prevents undesired multiple reads of the same label while in this mode.

Flashing: The reader flashes[1] on and off regardless of the trigger status. Flash rate is controlled by Manual Trigger Mode and Flash Off Time. When Flash is ON the reader reads continuously. When Flash is OFF scanning is deactivated.

Always On: No trigger pull is required to read a bar code. Scanning is continuously on. Double Read Timeout prevents undesired multiple reads of the same label while in this mode.

Please note that in DSM0421 models, AIM laser is off by default when in Always On mode.

CAUTION: Always On mode is not recommended for continuous and prolonged operations. Use Stand Mode (Automatic - Object Sense.). If you use Always On mode, make sure that DSM0400 is installed and mounted in the correct way for heat dissipation (e.g.:metal brackets or supports are recommended.)
In order to prevent overheat, the device might apply power reduction strategies (like reducing FPS or turning off AIM laser) if internal temperature reaches the defined threshold; when temperature is back below threshold, full power is restored.

Stand Mode: No trigger is required to read a bar code. Scanning turns on automatically when an item is placed in reader's field of view. While in this mode, the reader AIM is always on. The illumination LED goes off to on when a movement is detected in the field of view.

Serial Line

In Serial Line mode, a reading phase is defined as the time between two events: phase on and phase off, generated by a message sent from the host interface to the scanner. While in this mode the scanner activates reading only during a reading phase. The message (character or string) is user programmable.

Serial Line mode configurations:

Serial Start Character (or String): Specifies the string message to be sent over the host interface to activate the reading phase.

Serial Stop Character (or String): Specifies the string message to be sent over the host interface to stop the reading phase.

NOTE: The Serial Start/Stop Characters must be different and must not contain reserved characters (see Appendix D). See “Manual Trigger Control” on “page 63” on to configure control of manual triggering.

[1]Controlled by Flash On Time.

Flash On Time

This feature specifies the ON time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments.

Follow these instructions to set this feature.

1. Determine the desired setting in milliseconds.
2. Divide the desired setting by 100 (setting is in 100ms increments). Pad the result with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
3. Scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT FLASH ON TIME SETTING on page 63
5. Scan the appropriate two digits from the keypad in Appendix C representing the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE: If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See the table below for examples of how to set this feature.

Table 26. Flash On Time Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	500ms	1,000ms (1 sec.)	5200ms (5.2 sec.)	9,900ms (9.9 sec.)
2	Divide by 100 (and pad with leading zeroes to yield two digits)	05	10	52	99
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT FLASH ON TIME SETTING				
5	Scan Two Characters From Appendix C	‘0’ and ‘5’	‘1’ and ‘0’	‘5’ and ‘2’	‘9’ and ‘9’
6	Scan ENTER/EXIT PROGRAMMING MODE				

Flash Off Time

This feature specifies the OFF time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments.

Follow these instructions to set this feature.

1. Determine the desired setting in milliseconds.
2. Divide the desired setting by 100 (setting is in 100ms increments). Pad the result with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
3. Scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT FLASH OFF TIME SETTING on page 66.
5. Scan the appropriate two digits from the keypad in Appendix C, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE: If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See the table below for examples of how to set this feature.

Table 27. Flash Off Time Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	500ms	1,000ms (1 sec.)	5200ms (5.2 sec.)	9,900ms (9.9 sec.)
2	Divide by 100 (and pad with leading zeroes to yield two digits)	05	10	52	99
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT FLASH OFF TIME SETTING				
5	Scan Two Characters From Appendix C	‘0’ and ‘5’	‘1’ and ‘0’	‘5’ and ‘2’	‘9’ and ‘9’
6	Scan ENTER/EXIT PROGRAMMING MODE				

SYMBOLOGIES

Set Length

Length Control allows you to select either variable length decoding or fixed length decoding for the specified symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Set Length 1

This feature specifies one of the bar code lengths for a given symbology. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode.

Reference the section to view the selectable range (number of characters) for the symbology being set.

Follow these instructions to set this feature:

1. Determine the desired character length. Pad the number with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
2. Scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
3. Scan the “Select Length 1 Setting” for the symbology being set.
4. Scan the appropriate two digits from the keypad in Appendix C, that represent the length setting which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE: If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

5. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See the table below for examples of how to set this feature.

Table 28 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	01 Character	07 Characters	52 Characters	74 Characters
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT LENGTH 1SETTING for the desired symbology				
5	Scan Two Characters From Appendix C	‘0’ and ‘1’	‘0’ and ‘7’	‘5’ and ‘2’	‘7’ AND ‘4’
6	Scan ENTER/EXIT PROGRAMMING MODE				

Set Length 2

This feature specifies one of the bar code lengths for a given symbology. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode.

Reference the section to view the selectable range (number of characters) for the symbology being set. A setting of 00 specifies to ignore this length (only one fixed length).

Follow these instructions to set this feature:

1. Determine the desired character length. Pad the number with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
2. Scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
3. Scan the “Select Length 2 Setting” for the symbology being set.
4. Scan the appropriate two digits from the keypad in Appendix C, that represent the length setting which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE: If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

5. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See the table below for examples of how to set this feature.

Table 29 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	00 (ignore second length)	07 Characters	52 Characters	74 Characters
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	can SELECT LENGTH 2 SETTING				
5	Scan Two Characters From Appendix C	‘0’ and ‘0’	‘0’ and ‘7’	‘5’ and ‘2’	‘7’ and ‘4’
6	Scan ENTER/EXIT PROGRAMMING MODE				

NOTES

APPENDIX A
TECHNICAL SPECIFICATIONS

TECHNICAL FEATURES

PHYSICAL CHARACTERISTICS	
Color	Black
Dimensions	Height 27mm Length 38mm Width 47mm
Weight (with cable, without bracket)	USB version - Approximately 131 g RS-232 version - Approximately 155 g RJ45 version - Approximately 96g
ELECTRICAL CHARACTERISTICS	
Input Voltage	5 VDC ± 5%
External Trigger Input (Only RS-232 model):	1V - 5V Current Consumption for 1V = 2mA max 5V = 4mA max Min Pulse Duration = 10ms[a]
Current & Power Consumption	Typical RMS Input current at 5V in Default Configuration and Trigger Single mode **DSM04x1 models** (USB connected): Operating ≈ 244 mA[b] Standby/Idle ≈ 72 mA[c] Low Power ≈ 3.9 mA **DSM04x2 models** (USB connected): Operating ≈ 244 mA[b] Standby/Idle ≈ 70 mA[c] Low Power: ≈ 5 mA **DSM04x2 models** (RS232 connected): Operating ≈ 276 mA[b] Standby/Idle ≈ 65 mA[c] Low Power ≈ 9 mA

a. Although the scan engine can respond to this minimum pulse width for triggering, bar code decoding time depends on several factors. External Trigger should be held active until there is a good read decode or a determined timeout period.
b. if "power" and "trigger" status LED are disabled subtract about 30mA
c. if "power" status LED is disabled subtract about 15mA

PERFORMANCE CHARACTERISTICS	
Nominal Frame Rate	53 frames/second (Mpixel models) or 60 frames/second (WVGA models)
Light Source	Dual LEDs
Roll (Tilt) Tolerance	Up to ± 180°
Pitch Tolerance	± 60°
Skew (Yaw) Tolerance	± 60°
Print Contrast Minimum	25% minimum reflectance
Field of View	Depending on the selected model, see the tables below
Depth of Field (Typical)	Depending on the selected model, see the tables below
Minimum Element Width	1D linear: 2 mils (MP-DL) - 3 mils (MP-SR) Data Matrix: 6 mils (MP-DL) - 7.5 mils (MP-SR) PDF417: 3 mils (MP-DL) - 6.6 mils (MP-SR) 1D Linear: 3mils (WVGA) PDF: 5mils (WVGA) Datamatrix: 7.5mils (WVGA)

NOTE: The reading performances may change with different symbologies

DECODE CAPABILITY

1D / Linear Codes

All standard 1D codes including: UPC/EAN/JAN, P2 /P5 add-ons; Code 39; Italian Pharmacode 39; Code 128; C128 ISBT; I 2 of 5; Standard 2 of 5; Interleaved 2 of 5; Industrial 2of 5; Datalogic 2of5; IATA; Code 11; Codabar; ABC Codabar; EAN 128; Code 93; MSI/Plessey; RSS-14; BC412; Databar Limited; Databar Omnidirectional; Databar Omnidirectional Stacked; Databar Expanded; Databar Expanded Stacked; IATA; Trioptic; Matrix 2/5; Telepen.

Composite codes CC-A, CC-B and CC-C

PDF417; MicroPDF417.

2D Codes

China Han Xin Code; Datamatrix with Chinese extension; QR code; Micro QR; Aztec; Maxi-Code and Dotcode.

Postal Codes
Australian Post; British Post; China Post; Portugal Post; Swedish Post; New Zeland Post; Japanese Post; KIX Post; IMB; Planet Code; Postnet, Postnet BB; Royal Mail Code (RM4SCC) ; Mailmark.

SUPPORTED INTERFACE

RS-232 Standard

USB-COM, USB-Keyboard, USB-OEM, USB-Composite

RJ45 with Datalogic USB and RS232 cables:

- 90A052065: USB 2m straight cable
- 90A051230: RS232 2m straight cable

USER ENVIRONMENT

Operating Temperature	-20° to 50° C
Storage Temperature	-40° to 70° C[a]
Humidity	Operating: 5% to 90% relative humidity, non condensing
Drop specifications	3ft free fall drops to concrete
Ambient Light immunity	Up to 100,000 Lux
Contaminants	IEC529-IP54
ESD Level	12 KV
Regulatory	See the Regulatory Addendum.

a. Storage conditions for EAC Compliance require the device to be kept in a heated room.

DSM04X2-WA MODELS (MP) OPTICAL CHARACTERISTICS

Resolution	1280x960
Field of View	52°H x 40°V

DSM04X2-WA MODELS (MP) TYPICAL DEPTH OF FIELD

Symbology[a]	Resolution (mils)	Dmin (mm)	Dmax (mm)
Code 39	3	50	180
Code 39	5	30	240
Datamatrix	10	40	200
EAN13	13	35	370
Datamatrix	15	30	250
Code 39	20	(1)[b]	600

a. All labels grade A, ambient light level 300lux, pitch angle 10°, tilt angle 10°, skew angle 0°, room temperature 20°C.
b. Limited by field of view

RS-232 ELECTRICAL CONNECTIONS 9-PIN CONNECTO		
1	Trigger (DSM045X models only)	Trigger signal input (see Figure 1 and Figure 2))
2	TX	Transmit Data (output from scanner)
3	RX	Receive Data (input to scanner)
4	NC	Not connected
5	GND	Ground
6	VCC	+5Vdc
7	CTS	Clear to Send (input to scanner)
8	RTS	Request to Send (output from scanner)

Default configuration is RS-232: 115200, 8, N, 1, no handshaking, ACK/NAK disabled.

External Trigger (DSM045X models only)

Figure 1 - DSM0400 powered using DB9 pin n°6 and Input Trigger using DB9 pin n°1

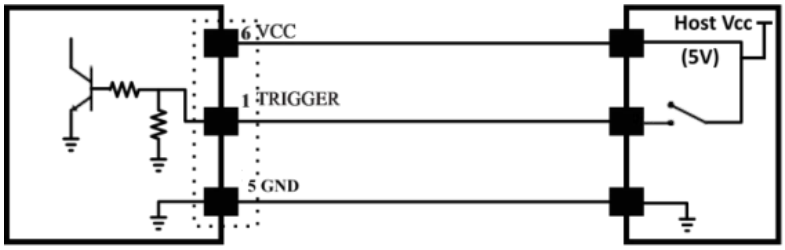
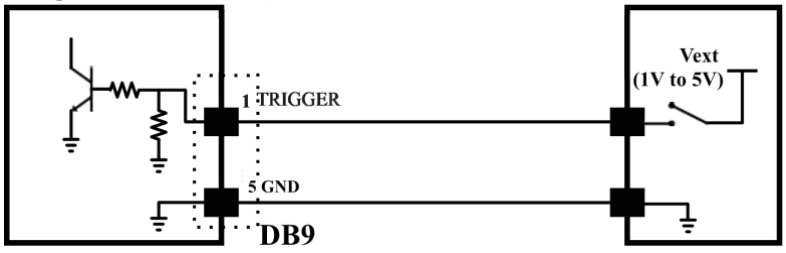


Figure 2 - DSM0400 Input Trigger using DB9 pin n°1 with an external voltage Vext

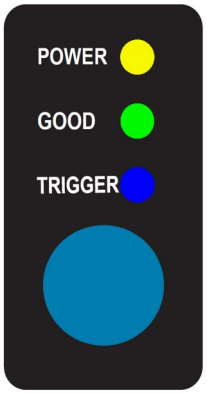
Acceptable range: from 1V to 5 V).



LED AND BEEPER INDICATIONS

Button and LED Status

The top of the product has a button and three indicator LEDs:

<table>
<tr><td rowspan="7"> 
</td><td rowspan="3">POWER
(yellow LED)</td><td>ON = Power ON</td></tr>
<tr><td>OFF = Power OFF or standby</td></tr>
<tr><td>BLINKS = during USB enumeration</td></tr>
<tr><td rowspan="2">GOOD
(green LED)</td><td>ON = Good Read</td></tr>
<tr><td>BLINKS = during Flash memory updates</td></tr>
<tr><td rowspan="2">TRIGGER
(blue LED)</td><td>ON = acquisition triggered (button pressed or trigger command or external trigger)</td></tr>
<tr><td>BLINKS = during Programming mode</td></tr>
<tr><td>Button</td><td>Press for manual trigger</td></tr>
</table>

INDICATORS

The reader's beeper sounds and its LED illuminates to indicate various functions or errors on the reader. DSM0400 also projects “Green Spot” on the field of view when the “GOOD” green LED turns on. The following tables list these indications. One exception to the behaviors listed in the tables is that the reader's functions are programmable, so they may or may not be turned on. For example, certain indications such as “Green Spot”/“GOOD” green LED can be disabled using programming bar code labels.

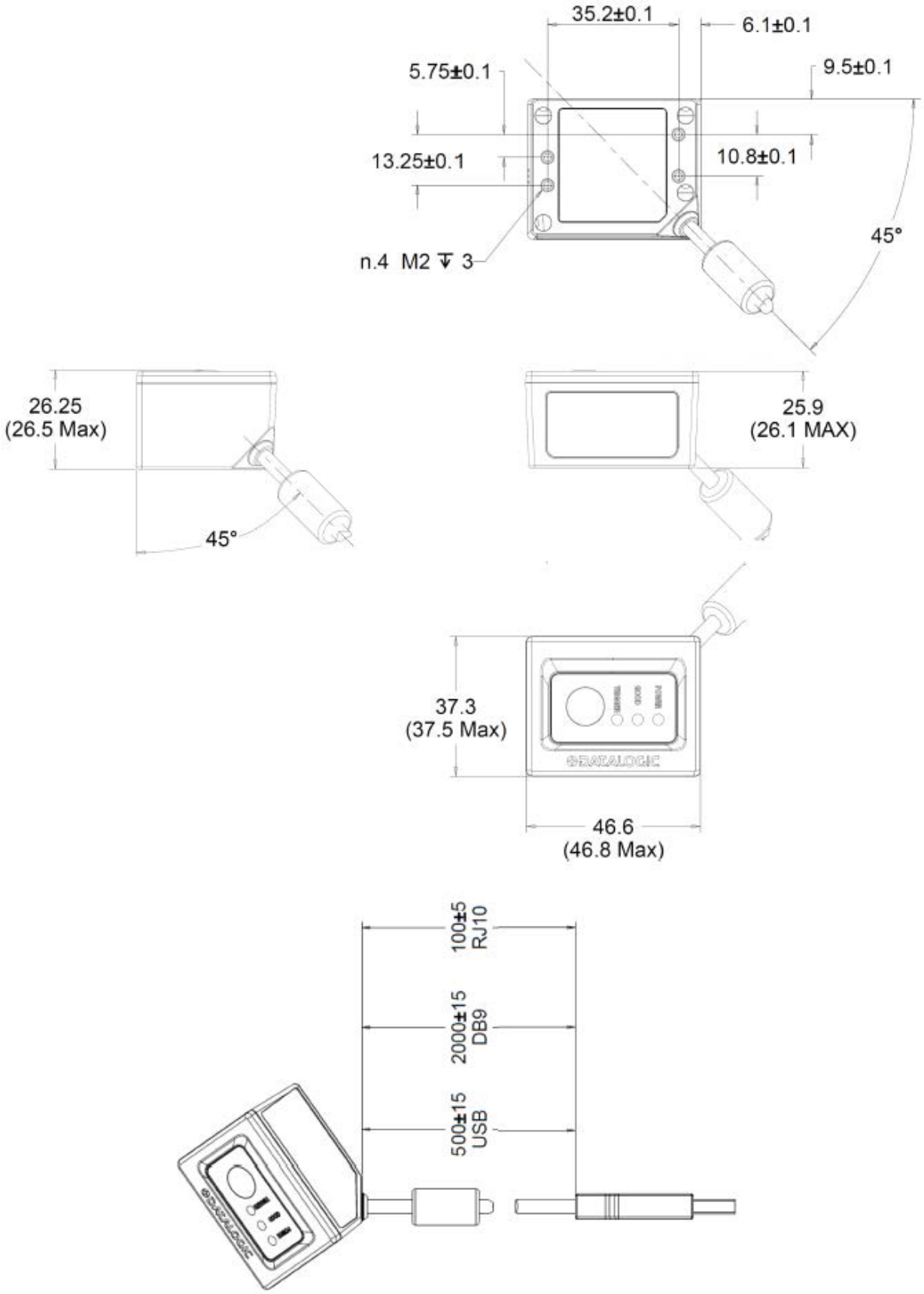
INDICATOR	DESCRIPTION	LED	BEEPER
Power-up / Reader in IDLE mode	The device powers up and is ready for operation in IDLE mode	POWER LED turns on steadily. With a USB interface, the LED blinks until enumeration with the host is completed. The POWER LED turns off when device is in LOW POWER or when turned off.	Imager beeps four times upon power-up.
Good Read Beep	A code has been decoded successfully	“Green Spot” and GOOD LED turn on for programmed time (default). LED behavior for this indication is configurable.	Beeps if enabled
Reader in Sleep mode	The reader is in standby and in low power consumption (also USB suspend)	The POWER LED is OFF	N/A

Reader in Programming mode	The reader is in Programming, accepting programming barcodes (eg: a “enter programming” bar code is read during IDLE mode)	The Trigger LED blinks slowly	N/A
USB Enumeration	The host is enumerating the reader in USB configuration	The POWER LED blinks fast	N/A
Imager Disabled	In USB OEM only interface the reader is disabled	The POWER LED blinks slowly	N/A
Flash Memory Update	Software update is in progress	GREEN SPOT / GOOD READ LED blinks slowly	N/A

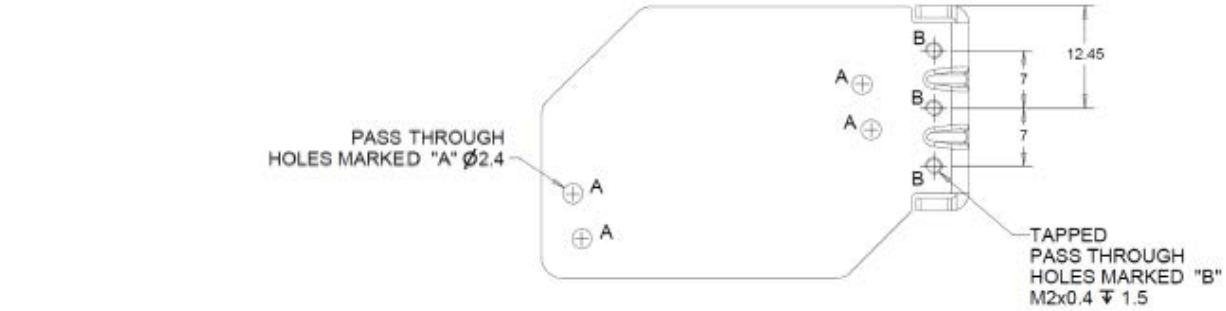
TROUBLESHOOTING

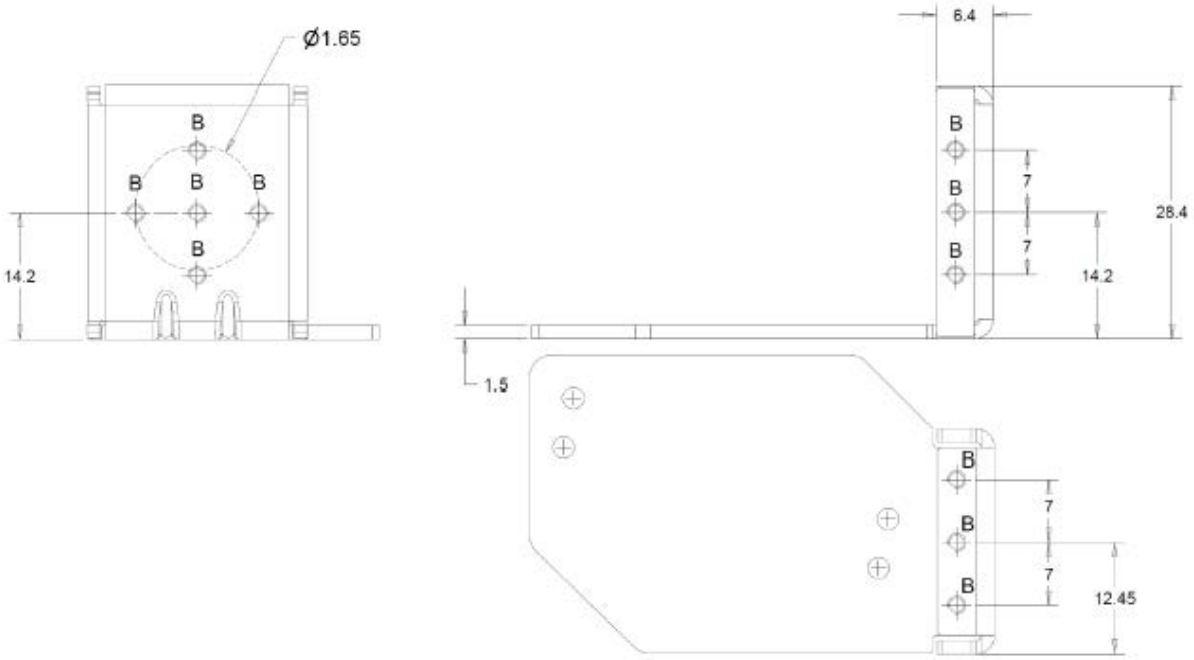
PROBLEMS	POSSIBLE CAUSES	SOLUTIONS
Nothing happens when the scan button is pulled.	No power to the imager.	Check system power. Ensure power supply is connected
	Interface or power cables are loose	Ensure all cable connections are secure.
LED comes on, but bar code does not decode.	Imager not programmed for correct bar code type.	Ensure the imager is programmed to read the bar code scanned type.
	Bar code label is unreadable.	Check the label to ensure it is not defaced. Try scanning another bar code type.
	Distance between imager and bar code is incorrect.	Move the imager closer to or further from the bar code.
Bar code is decoded but not transmitted to the host.	Imager not programmed for the correct host type.	Scan the appropriate host type bar code.

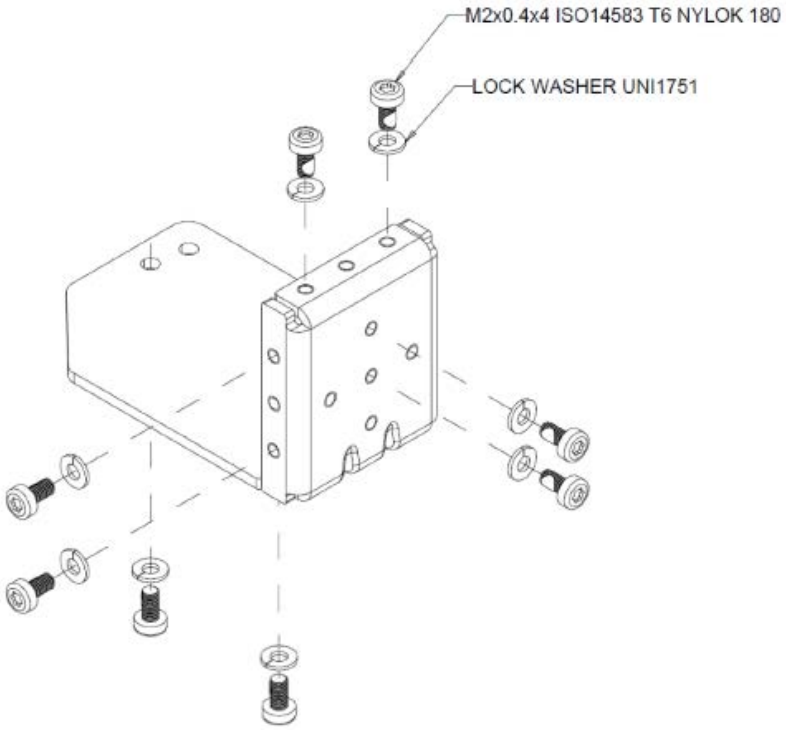
DSM0400 DIMENSIONS



Multi-face Bracket for Mounting in 5 sides

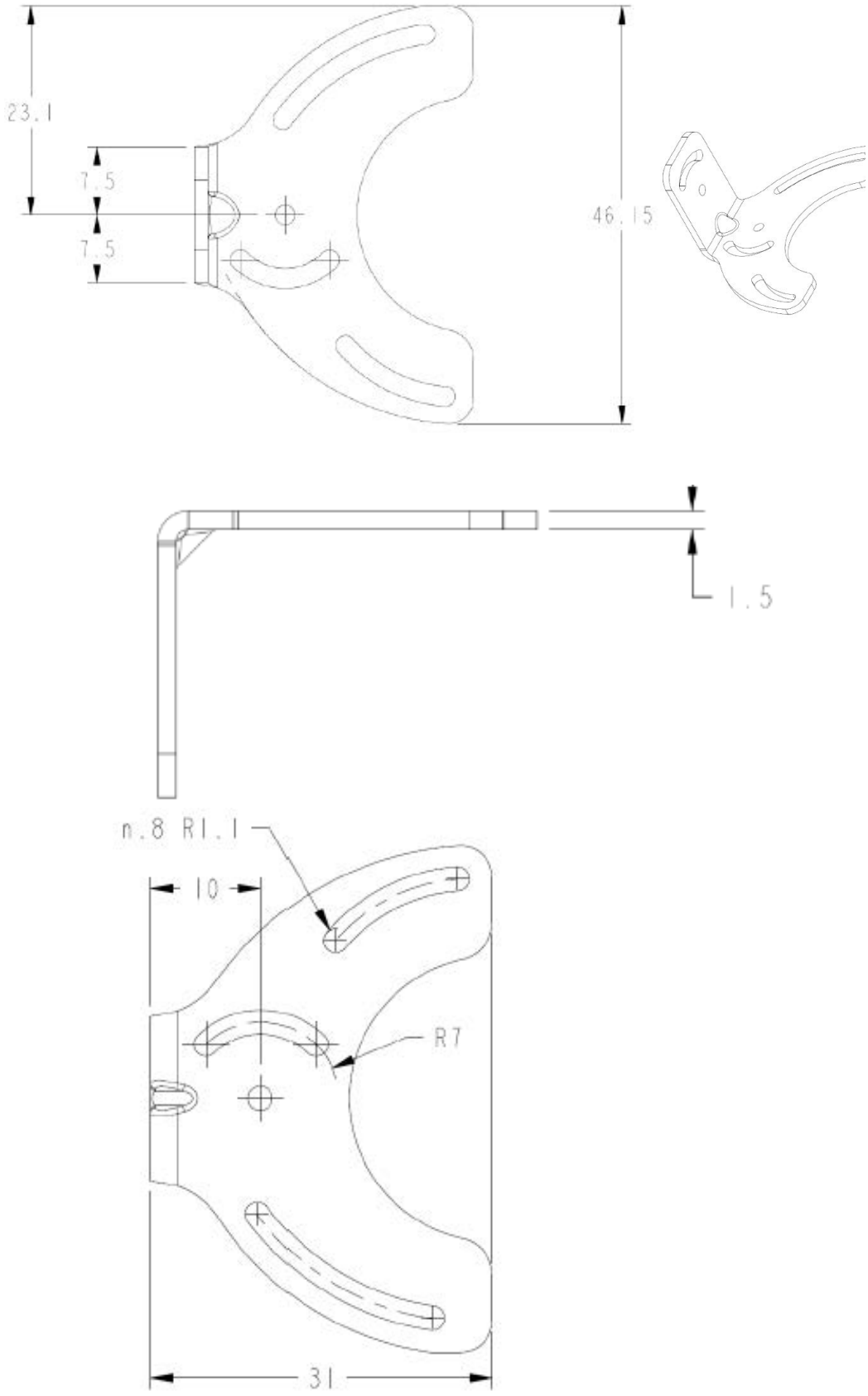


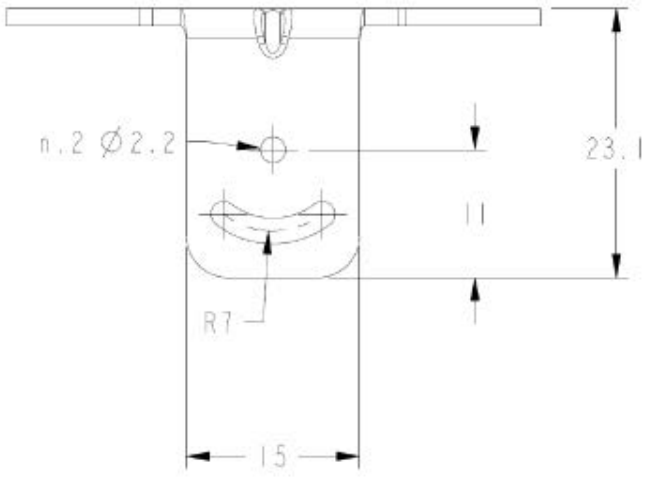




Angular Mounting Bracket

-17° to +25° Possible Angle





ERGONOMIC RECOMMENDATIONS

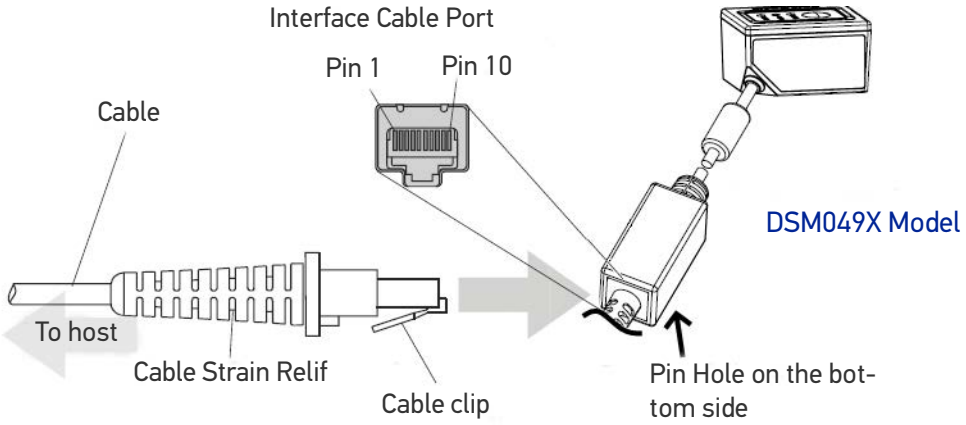
CAUTION: In order to avoid or minimize the potential risk of ergonomic injury follow the recommendations below. Consult with your local Health and Safety Manager to ensure that you are adhering to your company's safety programs to prevent employee injury.

- Reduce or eliminate repetitive motion
- Maintain a natural position
- Reduce or eliminate excessive force
- Keep objects that are used frequently within easy reach
- Perform tasks at correct heights
- Reduce or eliminate vibration
- Reduce or eliminate direct pressure
- Provide adjustable workstations
- Provide adequate clearance
- Provide a suitable working environment
- Improve work procedures.

STANDARD CABLE PINOUTS FOR DSM049X MODELS

Figure 3 and Table 1 provide standard pinout information for the scanner's cable.

Figure 3. Standard Cable Pinouts for DSM049X models



The signal descriptions in Table 1 apply to the connector on the scanner and are for reference only.

Table 1. Standard Cable Pinouts — Scanner Side

PIN	RS-232	USB
1	RTS (out)	
2		D+
3		D-
4	GND	GND
5	RX	
6	TX	
7	VCC	VCC
8		
9		
10	CTS (in)	

NOTE: DSM049X has to be used only with the Datalogic RS-232 or USB Cables indicated in the accessories list.

NOTES

APPENDIX B
SAMPLE BAR CODES

The sample bar codes in this appendix are typical representations for their symbology types.

1D Bar Codes

UPC-A

EAN-13

Code 39

Code 128

Interleaved 2 of 5

1D Bar Codes - continued

Code 32

345678902

Codabar

13579

Code 93

ABCDEF

Code 11

123456779

GS1 DATABAR™ (RSS)

NOTE: GS1 DataBar™ variants must be enabled to read the bar codes below (see "GS1 DataBar™ Omnidirectional" on page 138).

GS1 DataBar™ Expanded Stacked

1029384756019283746501928374602947845036 6523

GS1 DataBar™ Expanded

1234890hjio9900mnb

GS1 DataBar™ Limited

08672345650916

GS1 DATABAR™-14

GS1 DataBar™ Omnidirectional Truncated

55432198673467

GS1 DataBar™ Omnidirectional Stacked

90876523412674

GS1 DataBar™ Omnidirectional Stacked

78123465709811

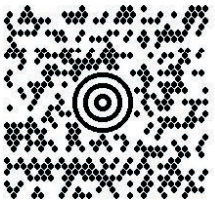
2D BAR CODES

Aztec

Datamatrix

China Sensible Code

MaxiCode



Test Message

PDF 417

PDF417

Car Registration

ABCabc

Micro PDF 417

BV17453

QR Code

35900G9

Micro QR Code

123456

UCC Composite

(17) 050923 (10) ABC123

(01) 0 4012345 67890 1 1

ASCII CHART

Table 2

ASCII Char.	Hex No.	ASCII Char.	Hex No.	ASCII Char.	Hex No.	ASCII Char.	Hex No.
NUL	00	SP	20	@	40	‘	60
SOH	01	!	21	A	41	a	61
STX	02	“	22	B	42	b	62
ETX	03	#	23	C	43	c	63
EOT	04	$	24	D	44	d	64
ENQ	05	%	25	E	45	e	65
ACK	06	&	26	F	46	f	66
BEL	07	’	27	G	47	g	67
BS	08	(	28	H	48	h	68
HT	09	)	29	I	49	i	69
LF	0A	*	2A	J	4A	j	6A
VT	0B	+	2B	K	4B	k	6B
FF	0C	,	2C	L	4C	l	6C
CR	0D	-	2D	M	4D	m	6D
SO	0E	.	2E	N	4E	n	6E
SI	0F	/	2F	O	4F	o	6F
DLE	10	0	30	P	50	p	70
DC1	11	1	31	Q	51	q	71
DC2	12	2	32	R	52	r	72
DC3	13	3	33	S	53	s	73
DC4	14	4	34	T	54	t	74
NAK	15	5	35	U	55	u	75
SYN	16	6	36	V	56	v	76
ETB	17	7	37	W	57	w	77
CAN	18	8	38	X	58	x	78
EM	19	9	39	Y	59	y	79
SUB	1A	:	3A	Z	5A	z	7A
ESC	1B	;	3B	[	5B	{	7B
FS	1C	<	3C	\	5C	|	7C
GS	1D	=	3D	]	5D	}	7D
RS	1E	>	3E	^	5E	~	7E
US	1F	?	3F	_	5F	DEL	7F

NOTES

APPENDIX C
KEYPAD

Use the barcodes in this appendix to enter numbers as you would select digits/characters from a keypad.

0	
	1
2	
	3
4	
	5

6	
	7
8	
	9

HID VARIABLE PIN CODE

Cancel an incomplete HID Variable PIN Code	
	Exit HID Variable PIN Code
A	
	B
C	
	D
E	
	F

APPENDIX D
RESERVED CHARACTERS

RESERVED CHARACTERS	HEX VALUE	NOTES
[SOH]	0x01	
[BEL]	0x07	
#	0x23	
$	0x24	
0	0x30	
3	0x33	
B	0x42	
D	0x44	
E	0x45	
F	0x46	
R	0x52	
S	0x53	
h	0x68	
i	0x69	
s	0x73	
t	0x74	
[FF]	0xFF	
Reserved Strings		
C<up to 36 chars>[CR]	0x43 <xxx> 0x0D	C can be used without [CR] or inside a string (not the first character)
01[CR]	0x30 0x31 0x0D	
34[CR]	0x33 0x34 0x0D	

DATALOGIC

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