SF61

Cordless Scanner

User's Guide

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Contents

Before You Begin

This section provides you with safety information, technical support information, and sources for additional product information.

Safety Information

Your safety is extremely important. Read and follow all warnings and cautions in this document before handling and operating Intermec equipment. You can be seriously injured, and equipment and data can be damaged if you do not follow the safety warnings and cautions.

This section explains how to identify and understand dangers, warnings, cautions, and notes that are in this document. You may also see icons that tell you when to follow ESD procedures and when to take special precautions for handling optical parts.

A warning alerts you of an operating procedure, practice, condition, or statement that must be strictly observed to avoid death or serious injury to the persons working on the equipment.

A caution alerts you to an operating procedure, practice, condition, or statement that must be strictly observed to prevent equipment damage or destruction, or corruption or loss of data.

Note: Notes either provide extra information about a topic or contain special instructions for handling a particular condition or set of circumstances.

Global Services and Support

Warranty Information

To understand the warranty for your Intermec product, visit the Intermec web site at **www.intermec.com** and click **Support** > **Returns and Repairs** > **Warranty**.

Web Support

Visit the Intermec web site at **www.intermec.com** to download our current manuals (in PDF).

Visit the Intermec technical knowledge base (Knowledge Central) at **www.intermec.com** and click **Support** > **Knowledge Central** to review technical information or to request technical support for your Intermec product.

Send Feedback

Your feedback is crucial to the continual improvement of our documentation. To provide feedback about this manual, please contact the Intermec Technical Communications department directly at **TechnicalCommunications@intermec.com**.

Telephone Support

In the U.S.A. and Canada, call **1-800-755-5505**.

Outside the U.S.A. and Canada, contact your local Intermec representative. To search for your local representative, from the Intermec web site, click **About Us** > **Contact Us**.

Who Should Read This Manual

This guide is for the person who is responsible for installing, configuring, and maintaining the SF61B Cordless Scanner.

This guide provides you with information about the features of the SF61B Cordless Scanner, and how to install, configure, operate, maintain and troubleshoot it.

Before you work with the SF61B Cordless Scanner, you should be familiar with your network and general networking terms, such as IP address.

Related Documents

The Intermec web site at **www.intermec.com** contains our documents (as PDF files) that you can download for free.

To download documents

1. Visit the Intermec web site at **www.intermec.com**.
2. Click the **Products** tab.
3. Using the **Products** menu, navigate to your product page. For example, to find the CN3 computer product page, click **Computers** > **Handheld Computers** > **CN3**.
4. Click the **Manuals** tab.

If your product does not have its own product page, click **Support** > **Manuals**. Use the **Product Category** field, the **Product Family** field, and the **Product** field to help you locate your documentation.

Patent Information

There may be U.S. and foreign patents pending.

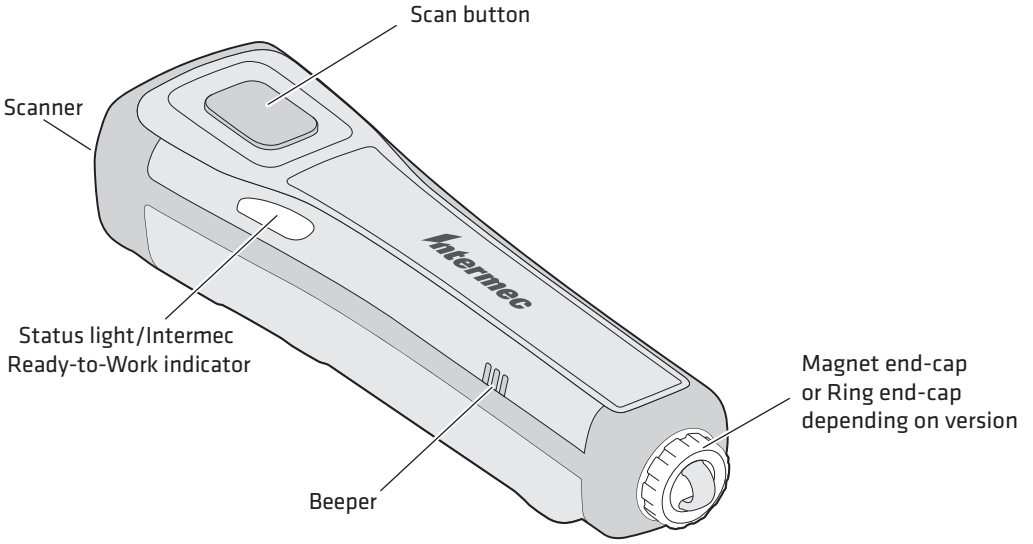
1

Introducing the SF61B Cordless Scanner

This chapter provides an overview of the SF61B Cordless Scanner. This chapter covers these topics:

What is the SF61B Cordless Scanner

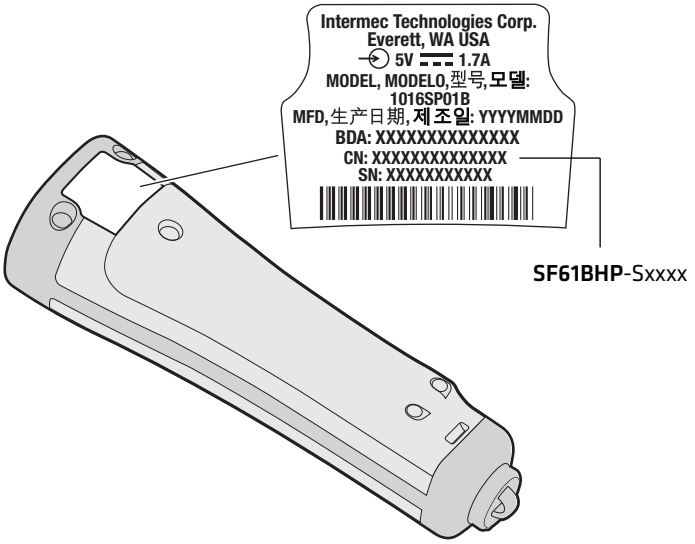
The SF61B Cordless Scanner is a rugged purpose-built handheld scanner with an ergonomic design. It uses a Bluetooth™ radio for RF communication.



SF61B Cordless Scanner

The SF61B is available in the following models:

- 1D imager—SF61B1D-Sxxxx
- 2D imager—SF61B2D-Sxxxx
- Healthcare 2D imager—SF61B2D-Hxxxx
- High performance 2D imager—SF61BHP-Sxxxx



SF61B Model Type: *The model type of your SF61B is indicated in the first part of the configuration number. In this illustration, the model type is SF61BHP-Sxxxx for high performance 2D imager.*

Charging the Battery

The SF61B uses a lithium-ion battery as its main power source. You need to fully charge the scanner before using it.

Warning

The battery pack used in this device may ignite, create a chemical burn hazard, explode, or release toxic materials if mistreated. Do not incinerate, disassemble, or heat above 100°C (212°F). Do not short circuit; may cause burns. Keep away from children.

Use only Intermec battery pack Model 1016AB01 (P/N SF61-BAT-Sxxx). Use of incorrect battery pack may present risk of fire or explosion. Promptly dispose of used battery pack according to the instructions.

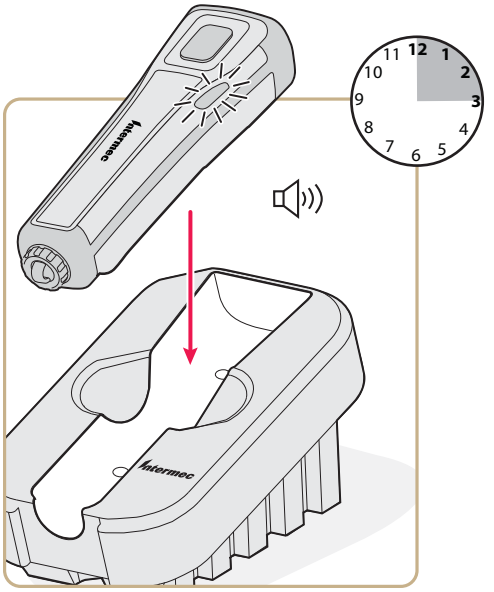
The SF61B can be charged using various types of charger (1-bay charger, 4-bay charger, FlexDock 4-scanner charger, a vehicle power adapter). See the **Accessories** section at the end of this chapter for more details.

Make sure you fully charge the battery before you start to use the SF61B. Should a problem arise with the battery, you can replace it (see **Replacing the Battery of the SF61B** in Chapter 4).

To charge the scanner's battery

Place the SF61B in a charger bay or connect it to the vehicle power adapter. The scanner beeps twice (two-tone beep) and the status light shows the charge status:

- a fixed red light indicates "scanner charging"
- a fixed green light indicates "scanner fully charged"



SF61B with the 1-Bay Charger

It takes approximately 3 hours to charge a fully discharged battery.

Battery Charge Status during Operation

During SF61B operation, the status light blinks red when the battery charge is less than 20% to indicate that you should charge the battery.

Understanding Bluetooth Terms

The following terms are used in this User Guide:

Pairing: To be able to connect and exchange data with a Bluetooth host device, your Bluetooth product must be "paired" with that device. The way you authorize the pairing to take place depends on the type of Bluetooth host device you are pairing with - see Chapter 2, **Connecting the SF61B**, for more details.

If your Bluetooth product and your Bluetooth host device are paired but, for some reason, the connection cannot be established (your product is out of range, one or both devices have been switched off, ...), the pairing association is not lost and the devices can communicate again when they are switched on and in range.

Discoverable: Your Bluetooth product is not yet paired with a Bluetooth host device but it can be "seen" by that device (the Bluetooth host device may also be able to "see" other Bluetooth products that are nearby).

When your Bluetooth product is trying to connect or is connected to a Bluetooth host device, it is no longer discoverable.

HID and SPP: Intermec Bluetooth scanners can use two specfic Bluetooth profiles to communicate with Bluetooth-enabled host devices:

- **HID**: When you use the HID (Human Interface Device) profile, your scanner is recognized as a keyboard by the host. Connection information is stored so that if the scanner loses the connection (out of range, low battery, etc.), it will try to reconnect as soon as this becomes possible again (back into range, charged battery, ...). No specific software is needed to collect data using the HID profile (this is not the case if you use the SPP profile).
- **SPP**: The SPP profile (Serial Port Profile) allows your scanner to communicate with the host device through the Bluetooth link as if it were a serial port. In this way, your scanner is immediately compatible with data management applications that collect data through a serial port.

Default settings and custom settings

The product behavior described in this manual corresponds to the default settings of your SF61B cordless scanner. Most of these settings can be customized using EasySet, the Intermec scanner setup software.

EasySet provides the full range of setup options for your SF61B (see **Configuring Your Scanner with EasySet** in Chapter 3 for details on how to install and use EasySet).

In this Manual and in EasySet, default settings are indicated by "(*)" after the name of the default setup command.

Turning On the SF61B

To turn the scanner on, press and release the scan button. The SF61B beeps twice and vibrates at power-up (default behavior).

If your scanner connects or reconnects to a Bluetooth host device / application, it emits a series of beeps from low to high and the blue Intermec Ready-to-Work indicator turns solid blue (default scanner behavior).

Pairing with a Bluetooth Host Device

If your SF61B is discoverable (not connecting or not already connected to a Bluetooth host) you can pair it with a Bluetooth host device and establish a Bluetooth connection between the two devices (see Chapter 2, **Connecting the SF61B**).

Note: Being discoverable is the default behavior of the SF61B, but you can use EasySet to make your product not discoverable if you wish (**Interface > Bluetooth > Discoverable > Not discoverable**).

Connecting on Power-Up

While the scanner is waiting for a connection, the blue Intermec Ready-To-Work LED blinks slowly.

Host-Initiated (Outgoing) SPP Connection

If your scanner is paired with a Bluetooth host device and was connected when it powered down, you will have to re-establish the connection manually when it powers up again.

After 5 minutes of inactivity (default behavior, modifiable), it will power down if the connection is not established.

All Other Connection Types

If your scanner is paired with a Bluetooth host device and was connected when it powered down, it will automatically try to reconnect at power-up.

After 5 minutes of inactivity (default behavior, modifiable), it will power down if the connection is not established.

Inactivity Shutdown Period

By default the SF61B shuts down after a period of inactivity of 1 hour if it is connected to a Bluetooth host and after 5 minutes of inactivity if it is not connected.

You can use EasySet to modify these inactivity timeouts (**Operating settings > Scanning / Triggering > Power down**).

Understanding the SF61B Behavior

The SF61B uses lights, beeps and vibrations to indicate if a bar code has been successfully decoded.

Note: The SF61B has a different behavior (lights, beeps, vibrate alert) to its predecessor, the SF51. If you prefer to use the beep and LED mode of the SF51, you can use EasySet to activate the legacy mode (**Operating settings > Beeps / LEDs > Beep and LED mode > Legacy mode**).

Blue Intermec-Ready-to-Work Indicator

Note: The blue Intermec Ready-to-Work light is enabled by default but you can use EasySet to disable the light or choose another color if you wish (**Operating settings > Beeps / LEDs > Ready-to-Work LED**).

The blue Intermec Ready-to-Work indicator™ LED gives information about the Bluetooth connection. When a connection has been established the light is always on (blue) unless the scanner is docked in a charger (in this case the LED displays a green or red battery charge indication even though the Bluetooth connection is still active).

Blue Intermec Ready-to-Work Indicator

Light State	What it Means
Off	A Bluetooth connection has not been established.
Blinking, slow	The scanner is trying to establish a Bluetooth connection with a Bluetooth host device.
On	A Bluetooth connection is established with a Bluetooth base station or host computer and the scanner is ready to scan bar codes and send data.

When using your scanner to scan bar codes (blue light on) your scanner will also flash status information using green or red lights. See the Status Light information in the next section.

Status Light

Note: The following tables show the default behavior of the status light, you can use EasySet to modify this behavior if you wish (**Operating settings > Beeps / LEDs**).

The status light flashes green or red to indicate the status of the scanner and/or battery. Status information is sometimes shown even if the Intermec Ready-to-Work Indicator is on. This way the scanner can communicate more than one type of information at the same time.

For example while the blue LED is on to show that there is a Bluetooth connection, the scanner will flash green when you have successfully scanned and transmitted a bar code.

Default Status Light Description During Scanner Operation

Light State	What it Means
Green light on for 2 seconds	The scanner successfully decoded a bar code and sent the data to the host.
Green light flashes twice	A configuration bar code was successfully read.
Red light comes on for 2 seconds	Transmission error or Configuration bar code was not accepted
Red blinking slow	Battery power is low (< 20% - need to charge).
Red continuously on and 6 fast beeps every 2 seconds	NVM (non-volatile memory) problem.

Default Status Light Description When the Scanner is Docked in a Charger

Light State	What it Means
Red continuously on	The battery is not fully charged and is charging.
Green continuously on	The battery is fully charged.

Default Status Light Description When the Scanner is Docked in a Charger

Light State	What it Means
Red continuously on and 6 fast beeps every 2 seconds	NVM (non-volatile memory) problem.
Amber blinking	Battery charging problem: • battery failure Solution: Replace the battery. • temperature problem: the integrated charge handler in the SF61B refuses to charge the battery due to storage or use of the SF61B and/or the battery charger outside the recommended battery charging temperature range (see recommended "Charging" temperature range in **Temperature and Environmental Specifications** in the Appendix) Solution: Move the SF61B (and battery) and/or battery charger to a location where they can regain the recommended charging temperature and charge the battery (no need to replace the battery).

Beeps and Vibrate Alert

Note: The following table shows the default behavior of the beeps and vibrate alert, you can use EasySet to modify many of these settings if you wish (**Operating settings > Beeps / LEDs**).

The SF61B beeps to give you audio feedback and vibrates when performing some functions. For example, you hear a beep each time you scan a valid bar code.

Default SF61B Beep and Vibrate Alert Descriptions

Beep Sequence	What it Means
Single beep and vibrate alert	Good read - the scanner successfully scanned a bar code.
Two fast beeps and vibrate alert	Power-up.

Default SF61B Beep and Vibrate Alert Descriptions

Beep Sequence	What it Means
Two fast beeps	The scanner successfully scanned a configuration bar code
Two beeps, bitonal	The scanner is docked correctly in a battery charger.
Six very fast beeps and vibrate alert	Transmission error or Configuration bar code was not accepted
Series of beeps from low to high	The scanner is connecting to a Bluetooth host.
Series of beeps from high to low (cannot be deactivated)	The scanner is disconnecting from a Bluetooth host. **Note 1:** The scanner does not beep when disconnecting automatically after a long period of inactivity. **Note 2:** The scanner performs a hardware reset (restart) when it is disconnected from EasySet (two beeps and a vibrate alert by default).
Six-beep melody (cannot be deactivated)	Scanner confirmation after rescue procedure (see in Chapter 4).

Using Vibrate Alert

Note: You can use EasySet to modify the default vibrate alert settings if you wish (**Operating settings > Beeps / LEDs > Vibrate alert**).

In this Manual and in EasySet, default settings are indicated by "(*)" after the name of the default setup command.

You can configure the SF61B to vibrate when it successfully decodes a bar code. This feature can be useful in these situations:

- You are in a noisy environment, such as a busy warehouse, where it can be difficult to hear the beeps.
- You are working in a quiet environment, such as a library, where you do not want to make a lot of noise.

To turn on vibrate alert for a good read

- Scan this bar code:

  Vibrate alert - On good read - Enable (*)

To turn off vibrate alert for a good read

- Scan this bar code:

  Vibrate alert - On good read - Disable

Scanning Bar Codes

For the SF61BHP do not look directly into the window area or at a reflection of the laser beam while the scanner is scanning. Long-term exposure to the laser beam can damage your vision.

The SF61B1D contains a 1D linear imager and the SF61B2D and SF61BHP contain 2D area imagers to scan bar code data. The scanner model you are using and the type of bar code you are decoding determine the way you scan the bar code.

When you unpack the SF61B, the following bar code symbologies are enabled by default:

All models (1D and 2D)

- Code 39 (*)
- Code 128 / GS1-128 (*)
- EAN/UPC (*)

2D models only

- Data Matrix (*)
- PDF417 (*)
- QR Code (*)

Note: Use EasySet to to enable and configure other symbologies (you will find them in the **Symbologies** section of the EasySet commmands window).

See **Configuring Your Scanner with EasySet** in Chapter 3 for details on how to use EasySet.

Before you can scan bar codes and send data to your data collection application, you need to establish a Bluetooth connection between your SF61B and your Bluetooth host device. If your scanner is not connected it will emit an error beep when scanning bar codes. For more information about establishing a Bluetooth connection, see Chapter 2, **Connecting the SF61B**, for more details.

To scan with an SF61B 1D imager model

1. Turn your scanner on by pressing the scan button.
2. Connect your scanner to a Bluetooth device.
3. Point the SF61B at the bar code and hold the SF61B at a slight angle 5 to 10 cm (2 to 4 in) from the label.
4. Press the scan button and direct the red beam so that it falls across all the bars in the bar code label.

   Use this test bar code:

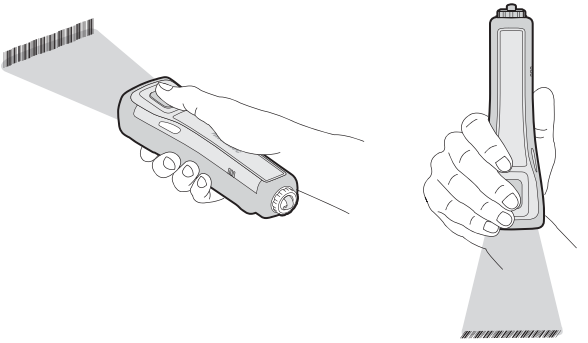
   Code 39 Test Bar Code

   123456

   Tip: Depending on your screen resolution, you may be able to scan bar codes displayed on your computer screen.

   By default, when the SF61B successfully reads a bar code label, it beeps once, the status light briefly turns green, and the scanner beam turns off. If Vibrate Alert is enabled, the SF61B briefly vibrates.
5. Release the scan button.



Scanning Bar Codes (example showing a 1D scanner): *The aiming and scanner beams that you see depend on the SF61B model you are using.*

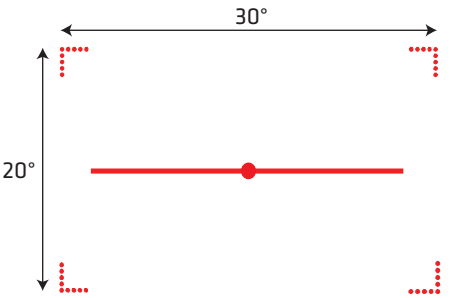
To scan with the SF61B2D and SF61BHP

1. Turn your scanner on by pressing the scan button.
2. Connect your scanner to a Bluetooth device.

3 Point the scanner at the bar code and hold it steady a few inches from the label.

4 Press the scan button:

- If you are using the SF61B2D, use the red LED aiming beam to position the imager over the bar code or area to capture.
- If you are scanning with the SF61BHP, use the laser framing to position the imager over the bar code or area to capture.



SF61BHP Laser Framing

Note: When reading bar code labels that are printed close to each other:

- use EasySet to activate the "center decoding" option to minimize the risk of reading the wrong code (**Operating settings > Data decoding security > Center decoding**)
- try to frame only the bar code you want to read to avoid reading the wrong bar code

Accessories

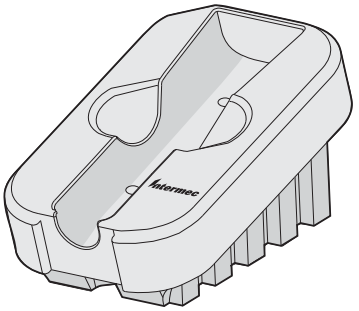
This section provides a list of required and optional accessories for your SF61B cordless scanner.

Required Accessories

Note: Most of the chargers in this section require a dedicated power supply. You will need to acquire a country-specific mains cable to connect it, ask your Intermec supplier or local contact for more information.

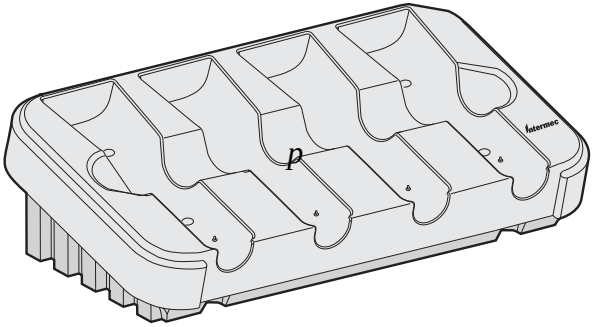
You will need one of the following chargers for your SF61B.

1-Bay Charger



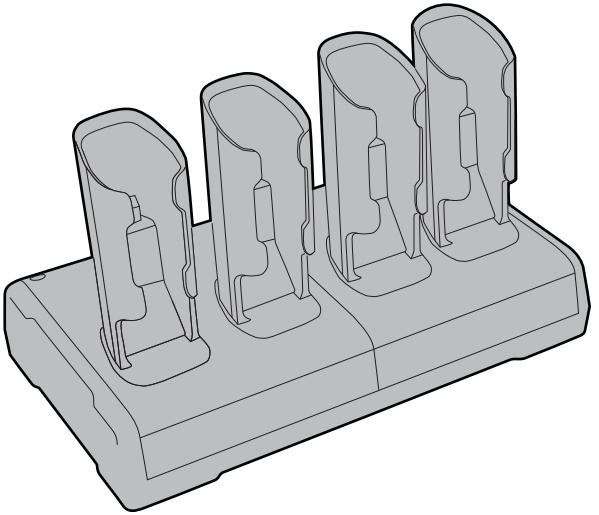
1-Bay Charger (P/N 871-221-xxx): *Used to charge a single SF61B scanner, operates with a Universal 5V power supply (P/N 851-089-306).*

4-Bay Charger



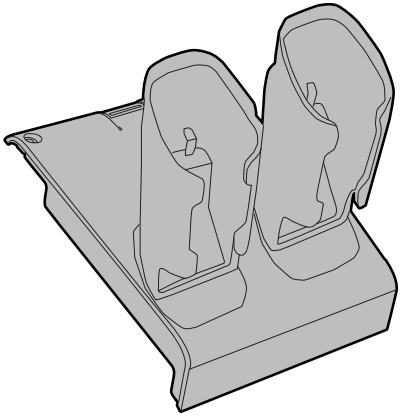
4-Bay Charger P/N 871-222-xxx: *Used to charge up to four SF61B scanners, operates with a 4-bay charger power supply (P/N 851-088-201).*

FlexDock 4-Scanner Charger, SF61B, with 2 x FlexDock Cups



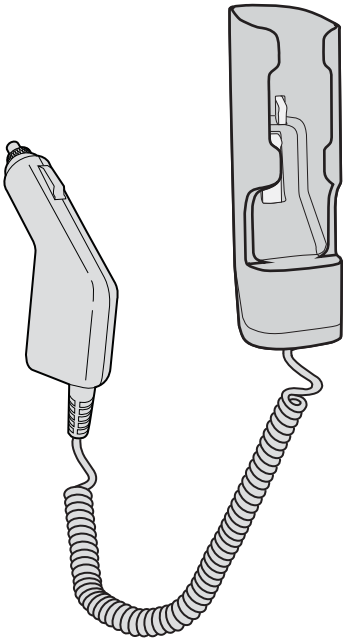
SF61 FlexDock 4-Scanner Charger (P/N DX2A28820): *Used to charge up to four SF61B scanners in two FlexDock Cups, operates with a dual-base power supply (P/N XXXXXXXX).*

FlexDock Cup, Scanner, SF61B



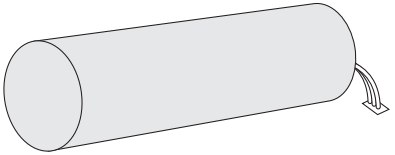
SF61 FlexDock Dual Cup (P/N 213-007-xxx): Used to charge up to two SF61B scanners in a FlexDock 4-Scanner Charger.

Vehicle Power Adapter



Vehicle Power Adapter (P/N SF61-VPK-xxxx): *Used to charge a single SF61B scanner from a vehicle battery (cigar lighter connection).*

SF61B Battery

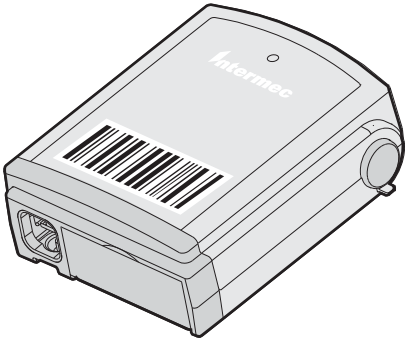


SF61B Battery (P/N SF61-BAT-xxx): *Replacement battery for the SF61B.*

Optional Accessories

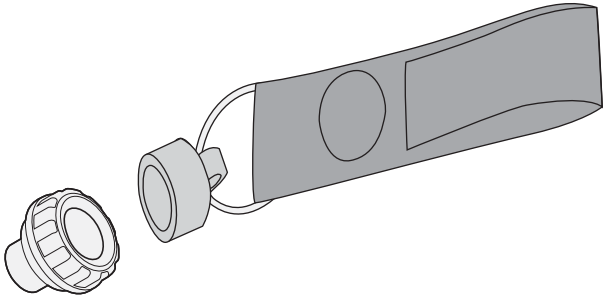
The following accessories are optional.

SD61 Base Station



SD61 Base Station (P/N 3-231019-xxx): *The SD61 Base Station is used to connect up to seven Intermec cordless Bluetooth™ scanners to a non-Bluetooth host device.*

SF61B Magnet End-Cap & Belt Loop



SF61B Magnet End-Cap & Belt Loop (P/N SF61-MAG-Sxxx): *Convenient belt attachment accessory for the SF61B scanner, can be installed in place of a ring end-cap.*

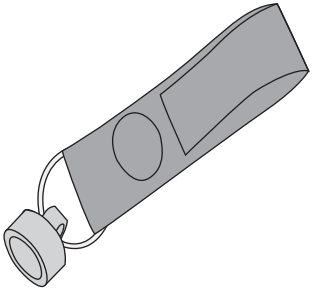
Note: For details on how to replace an SF61B end-cap, see **Replacing the End-Caps of the SF61B** in Chapter 4.

SF61B Ring End-Cap & Wrist Strap

SF61B Ring End-Cap & Wrist Strap (P/N SF61-RIN-Sxxx): *Convenient wrist attachment accessory for the SF61B scanner, can be installed in place of a magnet end-cap.*

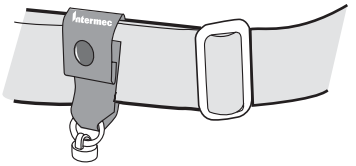
Note: For details on how to replace an SF61B end-cap, see **Replacing the End-Caps of the SF61B** in Chapter 4.

Belt Clip Holder



Belt Clip Holder (P/N 825-171-xxx): *Convenient accessory to attach the SF61B scanner to a belt.*

Industrial Belt Clip Holder



Industrial Belt Clip Holder (P/N 825-172-xxx): *Rugged accessory to attach the SF61B scanner to a belt.*

Chest Strap Holder

Chest Strap Holder (P/N 825-173-xxx): *The Chest Strap Holder is a shoulder strap and belt attachment accessory for the SF61B.*

2

Connecting the SF61B

Use this chapter to understand how to connect the SF61B to a number of Bluetooth devices. This chapter covers these topics:

- **Bluetooth Connection Considerations**
- **Connecting the SF61B to an Intermec Computer**
- **Connecting the SF61B to an Intermec SD61 Base Station**
- **Connecting the SF61B to Other Bluetooth Devices**
- **Keyboard Wedge Emulation Using the SmartWedgeLite™ Application**

Bluetooth Connection Considerations

Supported Bluetooth Devices

You can use Bluetooth radio communication to connect up to seven SF61B scanners to the following devices:

- Bluetooth-enabled Intermec computers
- the Intermec SD61 Base Station (see **Optional Accessories** in Chapter 1)
- other Bluetooth-enabled devices that support the HID (Human Interface Device) or SPP (Serial Port Profile) Bluetooth profiles

Note: Intermec's SmartWedgeLite™ software provides an interesting alternative for keyboard wedge emulation for this last category of "other Bluetooth-enabled devices" as it allows simplified pairing / connection with the host.

Bluetooth Versions

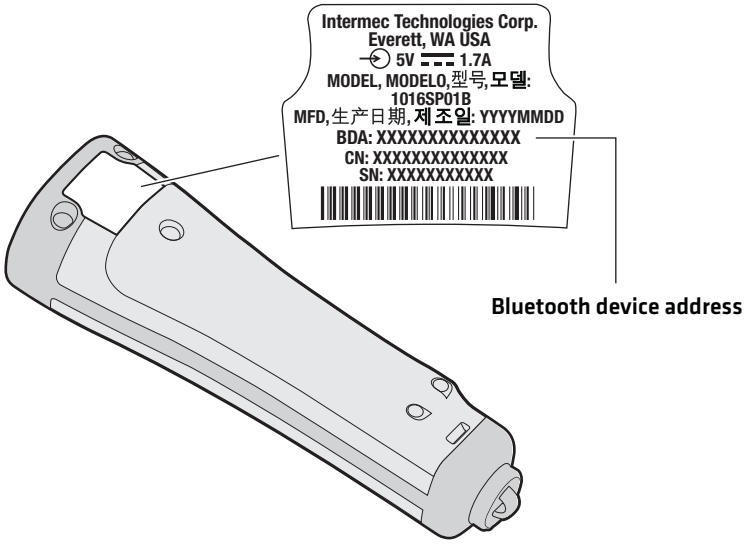
Product behavior may be different depending on the Bluetooth version you are using with your product (version 2.0, 2.1, etc.).

EasySet Setup Software

To connect to a host device, you may need to install EasySet, the Intermec scanner setup software. EasySet provides the full range of setup options for your SF61B cordless scanner (see **Configuring Your Scanner with EasySet** in Chapter 3 for details on how to install and use EasySet).

SF61B Bluetooth Device Address Location

When connecting your SF61B to a host device you may need to note its Bluetooth Device Address (BDA) which you will find on the product label:



SF61B Bluetooth Device Address: *The SF61B Bluetooth Device Address (BDA) is located on the scanner label.*

You may also need the BDA of the Bluetooth host device you want to connect to.

Out of Range Behavior

If the Bluetooth connection is lost (out of range, scanner battery too low, etc.) the scanner will automatically try to reconnect once the problem is resolved (back into range, recharge scanner battery, etc.). If you try to read a bar code while the scanner is disconnected from the host, the scanner will emit an error beep.

Note: This automatic reconnection will not occur if the SPP Outgoing (host-initiated) profile is used to pair with the host.

Connecting the SF61B to an Intermec Computer

Note: The following procedure is valid for recent Intermec computers. If your Intermec computer has a different interface to the one described here, the general principle will be the same.

Refer to the product-specific documentation for your Intermec computer for full details on how to connect Bluetooth devices to your product.

This procedure tells you how to connect your SF61B cordless scanner to a recent Intermec computer running Windows CE.

To activate Bluetooth on the Intermec computer

1. Tap **Start > Settings > Bluetooth > Mode** and check the **Turn on Bluetooth** checkbox.

To pair and connect the SF61B with the Intermec computer

1. Tap **Start > Settings > System > Wireless Scanning > Add Device > Quick Connect > Next**.

   The computer displays a Bluetooth association bar code containing the computer's Bluetooth Device Address (BDA).

2. Read the association bar code with your SF61B (you should be able to read it on the screen of the Intermec computer).

   The SF61B's blue Intermec Ready-to-Work indicator blinks slowly to show that it is waiting for a Bluetooth connection and the computer asks if you want to add the scanner to its device list.

3. Tap **Yes**, enter the the scanner's pairing code in the **Passcode** field if it is requested (the default Intermec Bluetooth pairing code is "0000") and tap **Next**.

   The SF61B emits the "connection successful" beep sequence (series of beeps from low to high) and the Intermec Ready-to-Work indicator comes on (continuous blue by default).

   The Intermec computer displays a **Device Added** message to indicate successful pairing and connection.

4. Tap **Done** and **Finish** to exit the connection procedure.

To test the Bluetooth communication

1. Open a data input application on the Intermec computer (**Start > Text** for example).
2. Read the following test code to make sure your connection is working correctly:

   Code 39 Test Bar Code

   123456

Disconnecting the SF61B from an Intermec Computer

Note: The following procedure is valid for recent Intermec computers. If your Intermec computer has a different interface to the one described here, the general principle will be the same.

Refer to the product-specific documentation for your Intermec computer for full details on how to disconnect Bluetooth devices from your product.

This procedure tells you how to disconnect your SF61B cordless scanner from a recent Intermec computer running Windows CE.

To remove the SF61B from the Intermec computer

1. Tap **Start > Settings > System > Wireless Scanning > Remove Device > Remove**.

   The SF61B emits the "disconnect successful" beep sequence (series of beeps from high to low) and the Intermec Ready-to-Work indicator goes off.
2. Tap **Finish** to exit the disconnect procedure.

Connecting the SF61B to an Intermec SD61 Base Station

Note: If your scanner is configured for the HID Bluetooth profile when you try to connect to the SD61 base station, the connection will not succeed. If in doubt, read the following bar code (SPP is the default profile) to make sure that your scanner is not HID-enabled:

Bluetooth Device Profile - SPP (*)

Note: You cannot use your SF61 product to change the setup of the SD61 base station, to do this you must use an SF51 scanner or using EasySet online setup (see the SD61 documentation for more infomation).

To connect up to 7 scanners

1. Connect the SD61 base station to a host device (the host PC of your data management application for example).

   See the *SD61 Base Station User's Guide* available on the Intermec web site at **www.intermec.com** for details on how to connect your SD61.

2. With each scanner you want to connect, scan the association bar code label on the SD61 base station and wait for the connection to be established.

   The scanner beeps twice, the green status light flashes twice and the blue Intermec Ready-to-Work indicator starts blinking. When the scanner connects to the base station it emits a series of beeps from low to high. The blue Intermec Ready-to-Work indicator turns on and stays on for both the scanner and base station.

Note: You may have to wait a few seconds for the scanner to connect (blinking blue Intermec Ready-to-Work indicator).

Creating a Bluetooth Device Address Bar Code Label for the SD61

Note: If your base station does not have an association bar code label, use EasySet to create an association bar code containing the Bluetooth Device Address of the base station (see **Configuring Your Scanner with EasySet** in Chapter 3 for details on how to install and use EasySet).

To get the Bluetooth Device Address of the SD61 base station

1. Connect your SD61 base station to a PC with EasySet installed.
2. Start EasySet and select the SD61 product (**Product > Select > Decoders > SD61**).
3. Open the **Communication > Select communication interface** window, select the interface corresponding to your SD61 base station and click **OK** to confirm.

   EasySet connects to the base station and retrieves the current configuration indicated by blue check marks or blue text next to the commands in the EasySet commands window (repeat step 3 if the connection is not established).
4. Open the **Configuration modes and utilities** folder and note the BDA string displayed next to the **Get Bluetooth device address** command.

To create a BDA bar code label for your SD61 base station

1. Still in EasySet, select the SF61B product (**Product > Select > Handheld scanners > SF61B**).
2. Open the **Interface > Bluetooth > Quick connect/disconnect** folder double-click the **Compose BT address** command.
3. Enter the host's Bluetooth Device Address (BDA) you noted in the previous procedure and click **OK** to confirm.

   A Bluetooth association bar code is created containing the BDA of your host computer.

   You may be able to read the association bar code on the screen or you can print it out as a label and stick it on your SD61 base station.

Disconnecting the SF61B from an SD61 Base Station

To disconnect your SF61B from the SD61 base station

1 Read the **Bluetooth Device Disconnect** bar code.

Bluetooth Device Disconnect

The SF61B emits the "disconnect successful" beep sequence (series of beeps from high to low) and the SF61B's Intermec Ready-to-Work indicator goes off.

Connecting the SF61B to Other Bluetooth Devices

Which Bluetooth Profile - HID or SPP?

Choose the appropriate Bluetooth profile to communicate with your host device (a Bluetooth-enabled PC for example) depending on the requirements of your data management application:

- the Human Interface Device Profile (HID) emulates keyboard data entry
- the Bluetooth Serial Port Profile (SPP) emulates data acquisition through a virtual COM port.

Note: To connect up to EasySet, Intermec's scanner setup software, running on a Windows PC you can use either of the following:

- a HID Bluetooth connection
- a host-initiated (Outgoing) SPP Bluetooth connection

See **Configuring Your Scanner with EasySet** in Chapter 3 for details on how to install and use EasySet.

The HID Bluetooth Profile

With the HID (Human Interface Device) profile, your SF61B is recognized as a keyboard. Connection information is stored, meaning that if the scanner loses the connection (out of range, low battery, etc.), it will try to reconnect as soon as possible (back into range, charged battery, etc.). No specific software is needed to collect data using the HID profile (this is not the case if you use the SPP profile).

When you pair using the HID profile, you connect straight away directly with the host.

The SPP Bluetooth Profile

The SPP profile (Serial Port Profile) allows your SF61B to communicate with the host device as if the Bluetooth link was a serial port. In this way, your SF61B is immediately compatible with data management applications that collect data through a serial port.

When you pair using the SPP profile, you do not connect straight away with the host, you must then connect with your host application either through an Outgoing (host-initiated) SPP connection or through an Incoming (scanner-initiated) SPP connection (see below).

Pairing with an HID or SPP Bluetooth Connection

This section describes how to use either an HID or an SPP Bluetooth profile to pair your scanner with a host PC.

To pair as an HID or SPP Bluetooth device (example for a Windows PC)

1. Before trying to pair and connect your scanner, make sure that:
   - it is not already trying to establish a Bluetooth connection (blinking blue Intermec Ready-to-Work indicator), in this case read the **Bluetooth Device Disconnect** bar code:

     Bluetooth Device Disconnect

   - it is not already paired with your Bluetooth device using another profile (HID or SPP), in this case remove it from your host's list of Bluetooth devices
   - your host is equipped for Bluetooth communication
2. Use your scanner to scan the appropriate **Bluetooth device profile** configuration code (**HID** or **SPP** depending on your chosen connection type):

   Bluetooth device profile - HID

   Bluetooth device profile - SPP (*)

3. Double-click the Bluetooth icon in the Windows system tray (or equivalent). The Bluetooth Devices window showing the current list of paired devices is displayed.
4. Click **Add a device** or the equivalent command depending on your operating system.

The host searches for all active Bluetooth devices within range. Your SF61B scanner appears in the Bluetooth device list with the name **SF61B - *BDA***, where *BDA* is the scanner's Bluetooth Device Address.

Note: If the scanner does not appear in the list, it might already be paired with the host (under some operating systems, already-paired Bluetooth devices do not appear in the Bluetooth device search list).

It may also be switched off and therefore not visible to the host, press the scan button to restart the scanner.

5 Select your scanner in the list and click **Next** (or the equivalent command).

Note: If a pairing code is requested, click **Enter the device's pairing code** (or the equivalent command), enter the scanner's pairing code (the default Intermec Bluetooth pairing code is "0000") and confirm.

Your SF61B scanner is now displayed in the host PC's list of paired devices.

If You have Paired Using the HID Profile

Your SF61B is paired and connected to the host - you hear the "connection successful" beep sequence (series of beeps from low to high) and see the Intermec Ready-to-Work indicator (continuous blue by default).

If You have Paired Using the SPP Profile

Your SF61B is paired but not connected to your host application - you will not hear the "connection successful" beep sequence (series of beeps from low to high) or see the blue Intermec Ready-to-Work indicator (default scanner behavior) until you connect to your host application.

Two Bluetooth virtual serial ports have been created (Outgoing and Incoming).

HID: Test your HID connection with the host

Note (HID connections only): By default the SF61B uses the North American keyboard layout. See **Setting an International Keyboard (HID Connections Only)** in Chapter 3 if you are working with a different keyboard configuration.

To test your HID pairing / connection

1 Start a simple data acquisition software such as Microsoft® Notepad and read the following test code to make sure your connection is working correctly:

Code 39 Test Bar Code

123456

SPP: Set up an SPP connection with your host application

Two ways to connect with SPP

Now that you are paired with your host device, there are two ways to establish an SPP Bluetooth connection with your host application:

- A **host-initiated (Outgoing) SPP connection** requires opening the Outgoing virtual COM port from your host application (EasySet or a terminal emulation program for example).

  The advantage of this method is that no Bluetooth association bar code is required. However, if the connection with the host application is lost, you must reconnect using the present connection procedure.

- A **scanner-initiated (Incoming) SPP connection** requires reading a Bluetooth association bar code then opening the Incoming port from the host application (a terminal emulation program for example).

  The advantage of this method is that the scanner automatically tries to reconnect to the host application each time the connection is lost. This method is recommended when you are collecting data for a data management application.

Host-Initiated (Outgoing) SPP Bluetooth Connection

You have paired your SF61B with your Bluetooth host device as described in the previous sections of this chapter.

Now you can establish a host-initiated Outgoing SPP connection to connect your SF61B to your host application.

To know the Outgoing virtual port number (example for a Windows PC)

SPP pairing created two Bluetooth virtual serial ports (Outgoing and Incoming).

For an Outgoing SPP Bluetooth connection, you will need to know which Outgoing virtual COM port to open from your host application.

1. Right-click the Bluetooth icon in the Windows system tray and choose **Open Settings** (or its equivalent).

   A Bluetooth settings window is displayed.

2. Locate the **COM Ports** section and note the **COM** port numbers and directions (Incoming, Outgoing).

3. Close the Bluetooth settings window.

To establish a host-initiated (Outgoing) SPP connection

1. Press the scan button to turn on your SF61B.

2. Start your host application and select the Outgoing COM port that you noted previously (see above).

   Depending on your host configuration and the time elapsed since your last connection / scanner reset, a popup may indicate that a Bluetooth device is trying to connect.

   If a pairing code is requested, click **Enter the device's pairing code** (or the equivalent command) and enter the scanner's pairing code (the default Intermec Bluetooth pairing code is "0000")

   When the scanner connects to your host application, it emits a series of beeps from low to high, and the blue Intermec Ready-to-Work indicator turns solid blue (default scanner behavior).

3 Read the following test code and check that it is correctly displayed by the host application to make sure that your connection is working correctly:

Code 39 Test Bar Code

123456

To disconnect from the host

1 Use the Bluetooth disconnect procedure specific to your host application.

When the scanner disconnects from the host PC, it emits a "disconnect successful" beep sequence (series of beeps from high to low), and the blue Intermec Ready-to-Work indicator turns off (default scanner behavior).

Scanner-Initiated (Incoming) SPP Bluetooth Connection

You have paired your SF61B with your Bluetooth host device as described in the previous sections of this chapter.

Now you can establish a scanner-initiated Incoming connection to connect your SF61B to a host application.

To prepare your host for a scanner-initiated (Incoming) Bluetooth connection (example for a Windows PC)

SPP pairing created two Bluetooth virtual serial ports (Outgoing and Incoming).

For an Incoming SPP Bluetooth connection, you will need to know which Incoming COM port to open from your host application.

You will also need to make sure that your host PC is enabled for Bluetooth connection from an external device (your SF61B).

1. Right-click the Bluetooth icon in the Windows system tray and choose **Open Settings** (or its equivalent).

   A Bluetooth settings window is displayed.

2. Under the **Options** tab (or equivalent), activate the following options or their equivalents:
   - **Allow Bluetooth devices to find this computer**
   - **Allow Bluetooth devices to connect to this computer**
   - **Alert me when a new Bluetooth device wants to connect**
3. Under the **COM Ports** tab (or equivalent):
   - Note the host computer's Incoming COM port.
4. Under the **Hardware** tab (or equivalent):
   - Select **Properties > Advanced** and note the host computer's Bluetooth address.

To create a Bluetooth association bar code label for your host

1. Run the EasySet scanner setup software and select the SF61B product (**Product > Select > Handheld scanners > SF61B**).
2. In the EasySet commands window, open the **Interface > Bluetooth > Quick connect/disconnect** folder.

3 Double-click the **Compose BT address** command to enter the host's Bluetooth Device Address (BDA) you noted previously (see above), and click **OK** to confirm.

A Bluetooth association bar code is created containing the BDA of your host computer.

To establish a scanner-initiated (Incoming) SPP connection (example for a Windows PC)

1 Pair your SF61B with the host as an SPP Bluetooth device (see the pairing procedure in the previous section)..

2 Make sure that the host computer is configured for connection from an external Bluetooth device (see above).

3 Read the Bluetooth association bar code you created for your host device in the previous procedure. You may be able to read it on the screen in EasySet, if not you can print it out as a label and perhaps stick it on your host device where it is easy to read (suggestion).

The blue Intermec Ready-to-Work indicator blinks slowly for 5 minutes to indicate it is waiting to connect (default scanner behavior).

4 Start the host application you want to connect to and open the Incoming COM port you noted previously.

When the scanner connects to your host application, it emits a series of beeps from low to high, and the blue Intermec Ready-to-Work indicator turns solid blue (default scanner behavior).

5 Read the following test code and check that it is correctly displayed by the host application to make sure that your connection is working correctly:

Code 39 Test Bar Code

123456

To disconnect the scanner from your host application

1 Use the Bluetooth disconnect procedure specific to your host application to close the Incoming COM port.

When the scanner disconnects from the host PC, it emits a "disconnect successful" beep sequence (series of beeps from high

to low), and the blue Intermec Ready-to-Work indicator blinks slowly for 5 minutes to indicate it is waiting to connect (default scanner behavior).

When you open the Incoming COM port again, if the scanner is switched on it will reconnect to the host application.

Note: Using the **Bluetooth Device Disconnect** bar code to disconnect your scanner will disconnect it permanently - it will not go into the "waiting to connect" state (no blinking blue light) and you will have to read the hosts's association bar code label again to re-establish the connection.

Bluetooth Device Disconnect

Connecting to Other HID Devices (Smartphones, Tablets, PDAs, . . .)

You can use your SF61B with many types of portable computer devices running various operating systems (Win32, Android, WinCe, iOS, ...).

EasySet provides some useful predefined quick-setup commands to simplify the HID Bluetooth connection for devices of this type (see the **Interface > Device profile > Predefined HID profile** folder in the EasySet commands window):

- PC/Android/Linux
- WinCE 5 / WinMobile 6.x
- iOS & MacOS (including a way to control the iOS virtual keyboard from your scanner)

The Intermec web site also provides Technical Bulletins to help you connect to devices of this type:

- **Connecting a scanner via HID to an Android tablet**
- **Connecting a scanner via HID to iPad or iPhone**

Note: When using your SF61B with an iPad tablet computer, reading bar codes containing more than 200 characters may cause problems (iPad application crash, unwanted restart of the scanner).

We recommend that you take this limitation into account when working with an iPad.

Keyboard Wedge Emulation Using the SmartWedgeLite™ Application

Intermec's SmartWedgeLite™ software provides an interesting alternative for keyboard wedge emulation as it allows simplified pairing / connection with the host.

SmartWedgeLite uses the SPP Bluetooth profile to make the connection but sends data from the scanner as if it was entered from a keyboard.

Note: For more information about SmartWedgeLite, see the application's integrated help or online help at **http://intermec.custhelp.com/app/answers/detail/a_id/13629/kw/smartwedgelite**.

Running SmartWedgeLite

Note: You can download SmartWedgeLite at: **http://www.intermec.com/products/scansf61b/index.aspx**

Before connecting your scanner using SmartWedgeLite, make sure that your host PC is Bluetooth-enabled and that SmartWedgeLite is installed.

To connect your scanner as a keyboard wedge using SmartWedgeLite

1. Scan the **Bluetooth device profile - SPP** configuration bar code:

   Bluetooth Device Profile - SPP (*)

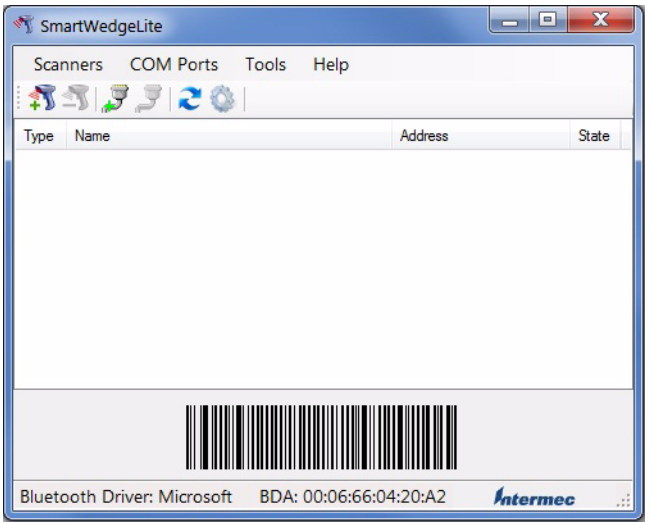
   

2. Start SmartWedgeLite.
3. Perform one of the following procedures to connect to the host.

Scanner-initiated (Incoming) Connection with SmartWedgeLite

Note: With the scanner-initiated (Incoming) connection, if your scanner loses the connection with the host PC it will automatically try to reestablish it.

Reading the Host's Association Bar Code in SmartWedgeLite



SmartWedgeLite main screen with the host's association bar code

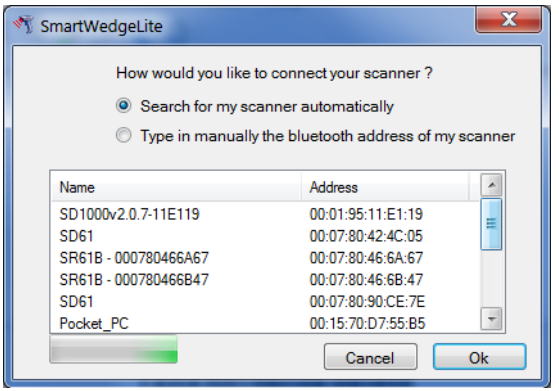
To read the host's association bar code in SmartWedgeLite

1 Read the association bar code displayed in the SmartWedgeLite main window (the bar code contains the host's Bluetooth Device Address).

Host-initated (Outgoing) Connection with SmartWedgeLite

Note: With the host-initiated (Outgoing) connection, if your scanner later loses the connection with the host PC, you will need to follow the connection procedure again to reestablish the Bluetooth connection.

Using the SmartWedgeLite Device List to Connect

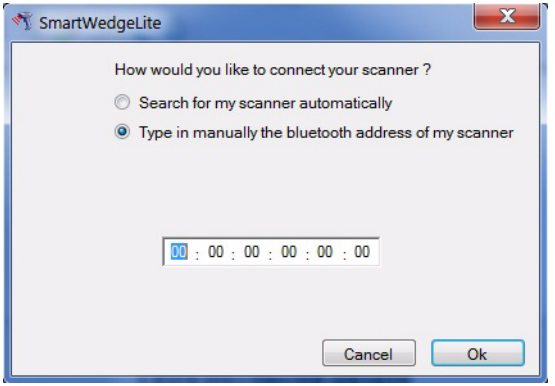


***Host-initiated connection**: Choosing your scanner from SmartWedgeLite's list of detected Bluetooth devices*

To choose your scanner from the SmartWedgeLite device list

1. Click on **Scanners** > **Add scanner** (or the icon).
2. Select **Search for my scanner automatically**.
3. Choose your scanner from the list of detected Bluetooth devices and click **OK**.

Using the Scanner's Bluetooth Device Address to Connect

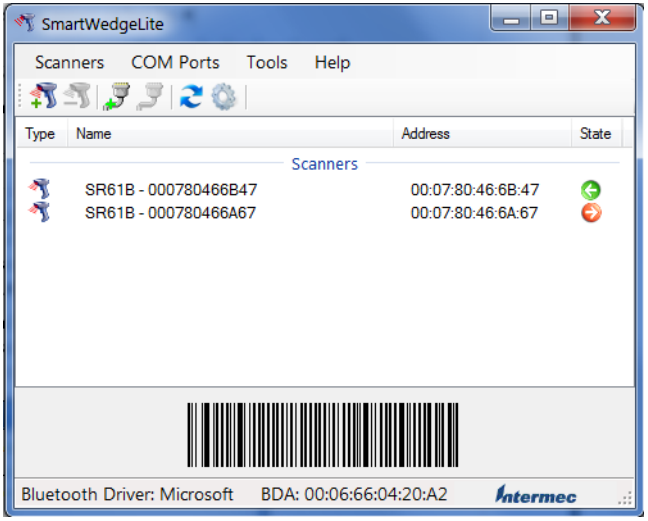


***Host-initiated connection**: Entering your scanner's Bluetooth Device Address in SmartWedgeLite*

To enter your scanner's Bluetooth Device Address in SmartWedgeLite

1. Click on **Scanners** > **Add scanner** (or the  icon).
2. Select **Type in manually the Bluetooth address of my scanner**.
3. Enter your scanner's Bluetooth Device Address and click **OK**.

Successful Scanner Connection (SmartWedgeLite)



Connected scanners and connection statuses: *An operational Incoming connection and a problem with an Outgoing connection*

When the scanner connects to the host PC, it emits a "connection successful" beep sequence (series of beeps from low to high) and the Intermec Ready-to-Work indicator comes on (continuous blue by default).

The scanner is added to the list of connected scanners in the SmartWedgeLite *Scanners* window.

An arrow indicates if the connection is incoming or outgoing. The color of the arrow indicates if the connection is operational (green) or if there is a connection problem (red).

Disconnecting your Scanner from SmartWedgeLite

To disconnect your scanner

1. Select your scanner in the list of connected devices in the SmartWedgeLite *Scanners* window.
2. Do one of the following:
   - click **Scanners** > **Remove scanner**
   - click the  icon
   - press the <Del> key on your keyboard

   Your scanner is disconnected.

3

Configuring the SF61B Cordless Scanner

This chapter provides some basic configuration bar codes and information on how to configure the SF61B using the EasySet scanner setup software or your Intermec computer. This chapter includes:

- **Basic Setup with Configuration Bar Codes**
- **Configuring Your Scanner with EasySet**
- **Configuring your Scanner From Your Intermec Computer**

Basic Setup with Configuration Bar Codes

This section provides configuration bar codes for a basic setup of your scanner. Many more configuration options are available with EasySet or with your Intermec computer, see **Configuring Your Scanner with EasySet** and **Configuring your Scanner From Your Intermec Computer** in the present chapter.

Default values are indicated by "(*)" in this manual and in EasySet.

Resetting Your Scanner (Software Reset)

Read the **Reset factory defaults** configuration bar code to reset your scanner's parameter settings to their initial values.

Reset factory defaults

You can also perform a software reset of your SF61B using one of the following methods:

- by sending a **Reset factory defaults** command to the scanner in online setup with EasySet (see **Online Setup with EasySet** in the present chapter)
- by forcing a software reset of the scanner (see **Forcing a Software Reset** in Chapter 4, **Troubleshooting and Maintaining the SF61B**)

The resulting software reset will reset your scanner's parameter settings to their initial values so you will have to reconfigure any custom settings you have programmed in your scanner.

Note: Depending on your host configuration (device, Bluetooth version), after a software reset of your scanner (**Reset factory defaults**) you may have to re-pair your product with your host device / application (see the appropriate section in Chapter 2, **Connecting the SF61B**), and in all cases you will have to re-connect with your host.

Setting an International Keyboard (HID Connections Only)

By default the SF61B uses the **North American Windows** keyboard layout when it is connected using the HID Bluetooth profile.

Use the following configuration bar codes to select the keyboard for your country. Additional keyboards are available in EasySet.

North American Windows (*)

French Windows

French Canadian Windows 95/98

French Canadian Windows XP/2000

German Windows

Spanish Windows

Italian Windows

UK English Windows

Japanese Windows

Brazilian Portuguese Windows

Czech Republic Windows

Slovakian Windows

Hungarian 101-key

Configuring the Postamble

The default postamble is **<CR> <LF>**. For certain applications or when using your scanner as an HID Bluetooth device you may need to change this setting. Use the following configuration bar codes to change the default postamble in your scanner.

More postamble options are available with EasySet or with your Intermec computer (see **Configuring Your Scanner with EasySet** and **Configuring your Scanner From Your Intermec Computer** in the present chapter).

Carriage Return + Line Feed (*)

None

Carriage Return

Enter

Configuring Your Scanner with EasySet

EasySet is Intermec's Windows-based scanner setup software application.

You can use EasySet to set up your scanner product in two ways:

- Online setup—send configuration commands from EasySet directly to your scanner.
- Offline setup—send configuration commands to a bar code setup sheet, print out the setup sheet and scan the bar codes with your scanner.

If it is not already installed on your host PC, download and install the latest version of EasySet at this link on the Intermec web site:

www.intermec.com/EasySet

We recommend that you install EasySet in the default location proposed by the installer.

Online Setup with EasySet

Note: In the following procedure you will use one of the following methods to connect your scanner to EasySet for online setup:

- HID Bluetooth connection
- host-initiated (Outgoing) SPP Bluetooth connection

To configure your scanner online by sending commands from EasySet

1. Pair your SF61B with your EasySet host PC and connect it using one of the following methods described in Chapter 2:
   - **for an HID connection:** see **Pairing with an HID or SPP Bluetooth Connection** (with HID, pairing and connection are simultaneous)
   - **for a host-initiated (Outgoing) SPP connection:** see **Pairing with an HID or SPP Bluetooth Connection** and **Host-Initiated (Outgoing) SPP Bluetooth Connection** for the connection
2. Start EasySet and select the SF61B product (**Product > Select > Handheld scanners > SF61B**).

   If the Select product dialog box does not appear, choose **Product > Select** or click on the product icon in the upper left corner of the EasySet window.
3. Select **Communication > Select communication interface.** The Device Selection dialog box appears.
4. Select the connection channel corresponding to the connection method you have chosen (Bluetooth Keyboard for an HID connection or the Outgoing virtual COM port for a host-initiated SPP connection) and click **OK**.
5. EasySet connects to your scanner and displays your scanner's current configuration settings in blue next to the commands.

   These settings are indicated by a blue check mark or blue text.

   Open the folders in the EasySet commands window to find the configuration commands you need and double-click each command to send it to your scanner.

Note: The scanner does not beep when you send configuration commands online from EasySet. It powers off when you select **Disconnect** from the **Communication** menu in Easyset.

To disconnect your scanner from EasySet

1. Select **Disconnect** from the **Communication** menu in Easyset.

   HID connection: the scanner disconnects from EasySet and restarts, and then goes into "ready to work" mode (the blue Intermec Ready-to-Work indicator comes on) as it is still connected to the host PC.

   Host-initiated Outgoing SPP connection: the scanner disconnects from EasySet and restarts but it is no longer connected to the host PC.

Offline Setup with EasySet

To configure your scanner offline by scanning bar codes

1. Start EasySet. The first time you start EasySet, the **Select product** dialog box appears.

   If the **Select product** dialog box does not appear, choose **Product > Select** or click on the product icon in the upper left corner of the EasySet window.
2. Select your product.
3. Open the folders in the EasySet commands window to find the configuration commands you need and double-click each command to send it to the setup sheet.
4. Click on the **Print** icon to print out the setup sheet and then scan the commands with your SF61B cordless scanner.

Configuring your Scanner From Your Intermec Computer

You can configure many settings for the SF61B from your Intermec computer using **Intermec Settings**.

To Configure the SF61B from Your Intermec Computer

Note: The description in this section is provided as a general guideline. Consult your Intermec computer's documentation for full details on how to set up your Bluetooth scanner from your Intermec computer.

Note: When you first connect to an Intermec computer, only SF61B settings common to the Intermec computer's internal scanner settings are changed to the internal scanner's default settings.

1. Establish a Bluetooth connection with your Intermec computer (see **Connecting the SF61B to an Intermec Computer** in Chapter 2).
2. On your Intermec computer, start the **Intermec Settings** application which may be located in **Settings > System** folder depending on your Intermec computer.
3. Select **Data Collection** > **SF61 Scanner *BDA***, where *BDA* is the Bluetooth Device Address (BDA) of your SF61B. The SF61B Bluetooth address is located on the label of your SF61B, see **SF61B Bluetooth Device Address Location** in Chapter 2.
4. Configure commands from the SF61 Scanner menu for your SF61B.
5. Select **File** > **Save Settings**. The SF61B is updated with the new configuration command settings.
6. Close **Intermec Settings**.

4

Troubleshooting and Maintaining the SF61B

Use this chapter to solve problems you may have while using the SF61B. This chapter contains these topics:

Troubleshooting the SF61B

Problems and Possible Solutions

If you have problems using your SF61B, use this section to try to find a solution.

Problems and Possible Solutions

Problem	Possible Solution
You press the scan button, but nothing happens.	The SF61B is powered by a rechargeable lithium-ion battery. Make sure the battery is not fully discharged. Charge the battery then try scanning again (see **Charging the Battery** in Chapter 1).
The Status Light blinks red slowly.	The battery is low. Charge the battery (see **Charging the Battery** in Chapter 1).
You press the scan button, the red scanning beam (1D) or laser framing (2D) turns on, but you cannot successfully scan a bar code.	Try these possible solutions: • Make sure that the SF61B is configured for the symbology you are scanning. • Make sure that the SF61B is at the appropriate scanning distance and angle from the bar code. Move the SF61B closer and farther away and tilt it up and down to find the appropriate distance and angle. • Make sure that the SF61B is able to read the type of bar code you are scanning (1D, 2D). • Make sure the bar code you are trying to scan is not poorly printed or not too small. Scan a known good bar code to make sure that the SF61B is working properly. • Clean the scan window if it is dirty. For more information, see **Scanning Bar Codes** in Chapter 1.
You scan a bar code, the SF61B vibrates and emits six very fast beeps.	This indicates a transmission error, check that: • your product is correctly connected to your host device / application • your host device / application is able to receive the data from your scanner

Problems and Possible Solutions (continued)

Problem	Possible Solution
You scan a bar code, the SF61B beeps twice, and the status light blinks green twice, but the data is not transmitted to the host computer.	Try these possible solutions: • Make sure that your data collection application is set up to receive data from the SF61B. • If you are using an SD61 Base Station connected to your host using an RS-232 cable, make sure that the serial parameters on the SD61 match the serial parameters of the host computer. The default serial parameters for the SD61 are 19200 baud, 8 data bits, no parity, and 1 stop bit.
You scan a configuration bar code and the SF61B emits six very fast beeps.	The SF61B does not recognize or support the configuration bar code you scanned.
You scan a bar code and the status light turns on, but the SF61B does not beep.	The beep duration, volume, frequency, and number may be deactivated: • use EasySet to check your product's settings (see **Online Setup with EasySet** in Chapter 3, **Configuring the SF61B Cordless Scanner**) and reconfigure your product if required
You cannot establish a Bluetooth connection with your scanner.	There may be a problem with your host Bluetooth interface, try one or more of the following: • disable then enable your host Bluetooth radio from the **Device Manager** (Windows host) or equivalent for your host device • disconnect then reconnect your Bluetooth adapter if applicable • force a restart of your SF61B (hardware reset), see **Forcing a Hardware Reset** in the present chapter) • re-pair your scanner with your host device / application (see the appropriate section in Chapter 2, **Connecting the SF61B**) • your scanner may be connecting with / connected to another Bluetooth host, disconnect the other Bluetooth connection if required (see Chapter 2, **Connecting the SF61B**)

Problems and Possible Solutions (continued)

Problem	Possible Solution
After a software reset: • by reading / sending a **Reset factory defaults** command • by performing a firmware upgrade you can see the Outgoing and Incoming virtual COM ports in your host's Bluetooth settings (SPP connection) but your host device / application tells you that they are not available.	Depending on your host configuration (host device, Bluetooth version), you may have to re-pair your product with your host device /application to reset your scanner-host Bluetooth settings (see the appropriate section in Chapter 2, **Connecting the SF61B**).
You have added your scanner to your host device during an SPP pairing procedure but you cannot see the corresponding Outgoing and Incoming COM ports in your host's Bluetooth settings.	There may be a Bluetooth management problem on your host device, try the following procedure: **1** Disconnect your scanner from your host device (see Chapter 2, **Connecting the SF61B**). **2** Remove your scanner from the host's device list. **3** Restart your host device (power down / power up). **4** Re-pair your scanner with your host for SPP connection and check the available COM ports in your host devices's Bluetooth settings. If this does not solve the problem, try this workaround (see Chapter 2, **Connecting the SF61B** for details on the different pairing / connection methods): **1** Pair / connect your scanner with your host device using the HID profile. **2** Disconnect your scanner from the host device. **3** Remove your scanner from the host's device list if applicable. **4** Re-pair your scanner with your host for SPP connection and check the available COM ports in your host devices's Bluetooth settings.

Problems and Possible Solutions (continued)

Problem	Possible Solution
You are trying to establish a Bluetooth connection from a host device to your SF61B, but the host device cannot find your scanner.	Your SF61B may be switched off or connected to another Bluetooth host, or there may be a Bluetooth management problem on your host device. Try one or more of the following (see Chapter 2, **Connecting the SF61B** for details on the different pairing / connection methods): • press the scan button to power up your product • disconnect your product if it is connected to another host • re-pair your product with your host device • restart your host device (power down / power up)
You established a Bluetooth connection with an Intermec computer, and the settings on your SF61B were restored to their default values.	When you first connect to an Intermec computer, only SF61B settings common to the Intermec computer's internal scanner settings are changed to the internal scanner's default settings. Scan configuration bar codes, or use Intermec Settings on your Intermec computer to change your SF61B settings.
You cannot use your SF61B to change the configuration settings of an SD61 base station.	You must use an SF51 scanner or another compatible product if you want to change the settings of an SD61 base station.
Your scanner is unresponsive or appears to be locked.	Try to perform a hardware reset of your scanner (see below, , in the present chapter). A hardware reset will restart your scanner but it will not reset your custom configuration settings. Depending on the type of Bluetooth connection you are using, your scanner will automatically reconnect with your host device / application or you will have to reconnect manually.

Problems and Possible Solutions (continued)

Problem	Possible Solution
None of the previous suggestions have solved your problem	**Perform a software reset** (Reset factory defaults) of your SF61B using one of the following methods: • read the **Reset factory defaults** configuration code (see **Resetting Your Scanner (Software Reset)** in Chapter 3, **Configuring the SF61B Cordless Scanner**) • send a **Reset factory defaults** command from EasySet to the scanner in online setup mode (see **Online Setup with EasySet** in Chapter 3, **Configuring the SF61B Cordless Scanner**) • force a software reset of the scanner (see below, **Forcing a Software Reset**, in the present chapter) **Bear in mind however:** • This will reset your scanner's parameter settings to their initial values so you will have to reconfigure any custom settings you have programmed in your scanner (see Chapter 3, **Configuring the SF61B Cordless Scanner**). • Depending on your host configuration (host device, Bluetooth version), you may have to re-pair your product with your host device / application (see the appropriate section in Chapter 2, **Connecting the SF61B**). • In all cases you will have to re-connect with your host (see the appropriate section in Chapter 2, **Connecting the SF61B**).

Note: You may find a solution to your problem in *Knowledge Central*, the online knowledge base for Intermec products:

http://intermec.custhelp.com/app/home

and you can also find useful scanner-specific information on the *Scanner FAQ (Meta-Answer)* page:

http://intermec.custhelp.com/app/answers/detail/a_id/12923/kw/meta

Recovering the SF61B

If your SF61B appears "dead" or does not respond when you press the scan button, you can try to :

- restart the product (hardware reset)
- reset the product's configuration settings to their initial values (software reset)

A hardware reset does not lose the current configuration settings.

A software reset sets all the configuration settings of the scanner back to their default values, including custom default settings (same effect as when you read the **Reset factory defaults** configuration bar code).

Note: Depending on the status of the scanner, pressing and holding the scan button will initiate either the hardware reset or the software reset. If the scanner performs a hardware reset (no red LED) and you want to perform a software reset, continue to press and hold the scan button for a further 10 seconds to apply the software reset procedure (5 quick presses on the scan button while the red LED is on).

Note: If your scanner does not turn on after a hardware and/or software reset and you are using a correctly charged and functioning Intermec battery pack Model 1016AB01 (P/N SF61-BAT-xxx,), please contact your Intermec representative.

Forcing a Hardware Reset

The initial reflex when a product gets into a blocked or "dead" state is to perform a hardware reset by restarting it - you can try switching it off and on, disconnecting and reconnecting the cable, or removing and reconnecting the battery.

This is fine for some products, but the SF61B does not have an on-off switch, it doesn't have a cable you can disconnect/reconnect, and its internal battery is not easily accessible, so how can you restart it?

To force a hardware reset (restart) of your SF61B

1. Press and hold the scan button for more than 20 seconds until the scanner beeps twice and vibrates (no red LED).
2. Release the scan button.

If you have a Bluetooth connection, the SF61B disconnects from the host device when it switches off.

After a restart, your scanner may try to reestablish the Bluetooth connection with the host depending on the type of connection (it will do so with an HID connection or a scanner-initiated Incoming SPP connection for example).

Forcing a Software Reset

Note: A software reset of your scanner will reset its parameter settings to their initial values so you will have to reconfigure any custom settings you have programmed in your scanner (see Chapter 3, **Configuring the SF61B Cordless Scanner**).

The initial reflex when a scanner gets into an unwanted and complicated setup configuration is to perform a software reset by reading the **Reset factory defaults** configuration bar code.

But what if the current setup has blocked the use of the scan button and you cannot read a **Reset factory defaults** configuration code?

To force a software reset (Reset factory defaults) of your SF61B

1. Press and hold the scan button for 10 seconds until the red LED comes on (it will stay on for 2 seconds).

   If the red LED does not come on after 10 seconds, you must wait another 10 seconds until the scanner does a hardware reset. Continue to hold the scan button for a further 10 seconds until the red LED comes on (in this case, you have pressed and held the scan button for a total of 30 seconds).

2. Press the scan button very rapidly five times in succession while the red LED is on (you need to be quick as the red LED only stays on for 2 seconds).

   The green LED comes on, the scanner beeps a reset confirmation (six-beep melody) and powers off and powers on (two beeps and vibrate alert by default).

   If you had a Bluetooth connection before the software reset, the SF61B will disconnect from the host device.

Note: Depending on your host configuration (device, Bluetooth version), after a software reset of your scanner (Reset factory defaults) you may have to re-pair your product with your host device / application (see the appropriate section in Chapter 2, **Connecting the SF61B**).

Calling Product Support

To talk to an Intermec Product Support representative:

- In the U.S.A. and Canada, call **1-800-755-5505**
- Outside the U.S.A. and Canada, contact your local Intermec representative. For help, go to **www.intermec.com** > **About Us** > **Contact Us**.

Before you call Intermec Product Support, make sure you have the following information for your SF61B product:

- configuration number ("CN" on the product label)
- serial number ("SN" on the product label)
- firmware version
- sub-system versions
- decode version

Getting SF61B Version Information

There are two ways to get the firmware version, subsytem versions and decode version of your SF61B:

- read **Get version** bar codes and display your product's version information on your host device's screen
- use EasySet in online setup mode to display your product's version information

Reading "Get version" Bar Codes

You can read **Get version** bar codes to display your product's version information if your SF61B is connected to a Bluetooth host device / application.

To get version information by reading bar codes

1. Connect your SF61B to a Bluetooth host using the appropriate procedure for your host device /application (see Chapter 2, **Connecting the SF61B**).
2. Run an application that can accept bar code information from your SF61B (Microsoft® Notepad if you are using an HID connection for example, or the host application you use for Bluetooth serial emulation).
3. Scan the following bar codes:

   Get firmware version

   Get sub-system version

   Get decode version

   The version information is displayed in your host application.

Using EasySet to Display Current Version Information

You can use EasySet to get version information if your SF61B is connected using an HID connection or a host-initiated (Outgoing) SPP connection.

To get version information by reading bar codes

1. Follow the procedure for online setup with EasySet (see **Online Setup with EasySet** in Chapter 3).
2. When the scanner is connected to EasySet, open the **Configuration modes and utilities** section in the EasySet commands window.

   The current firmware, subsystem and decode versions appear in blue next to the **Get firmware version**, **Get sub-system versions** and **Get decode version** commands.

Upgrading the SF61B Firmware

You may need to upgrade the SF61B firmware if there is an update that incorporates changes to a feature or adds functionality to the scanner. When you upgrade your scanner, the current settings are erased and replaced with the default settings.

After a firmware upgrade, you will need to reestablish Bluetooth communication between your SF61B and the other Bluetooth devices and applications in your data collection system.

Upgrading the SF61B takes about 10 minutes to complete.

Note: Depending on your host configuration (device, Bluetooth version), after a firmware upgrade of your scanner you may have to re-pair your product with your host device /application (see the appropriate section in Chapter 2, **Connecting the SF61B**).

Prepare for Firmware Upgrade with EasySet and WinFlash

To upgrade the SF61B you will need:

- a Bluetooth connection with a Bluetooth enabled host (internal Bluetooth controller or external Bluetooth adapter)
- a host PC running Microsoft® Windows® XP with SP2, Microsoft Windows 2000 with SP4, or a more recent version of Microsoft Windows
- the latest version of EasySet (includes the WinFlash firmware upgrade utility) installed on the host PC (available at **www.intermec.com/EasySet**)
- the SF61B **.bin** firmware file for your SF61B model (1D or 2D) available at **http://www.intermec.com/products/scansf61b/index.aspx**.

Note: If your SF61B LED blinks red before you start the upgrade procedure, you will need to charge it before you perform the firmware upgrade (see **Charging the Battery** in Chapter 1).

Download the Latest SF61B Firmware Version

To download the latest firmware upgrade package

1. Go to the SF61B section of the Intermec web site: **http://www.intermec.com/products/scansf61b/index.aspx**
2. Open the **Downloads** tab.
3. Click the link to download the appropriate SF61B firmware upgrade package for your SF61B model (1D or 2D) and save it to your PC.

Disconnect any Existing Bluetooth Connection with your SF61B

Firmware upgrade using EasySet and WinFlash requires a host-initiated (Outgoing) SPP Bluetooth connection. If your SF61B is currently connected to the host with another type of Bluetooth connection, you will have to disconnect/deactivate that connection before you perform the firmware upgrade procedure.

To disconnect your scanner from the host

1. If your SF61B is connected to the host, read the **Bluetooth Device Disconnect** bar code to disconnect it.

   Bluetooth Device Disconnect

2. Remove your SF61B from the host's list of Bluetooth devices:
   - Double-click the Bluetooth icon in the system tray, select your scanner and click **Remove device** (or equivalent).
3. Close the host's Outgoing COM port if it is open.

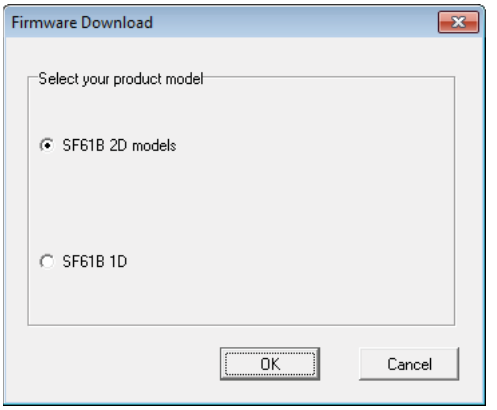
Use EasySet and WinFlash to Upgrade your SF61B Firmware

To upgrade your scanner's firmware

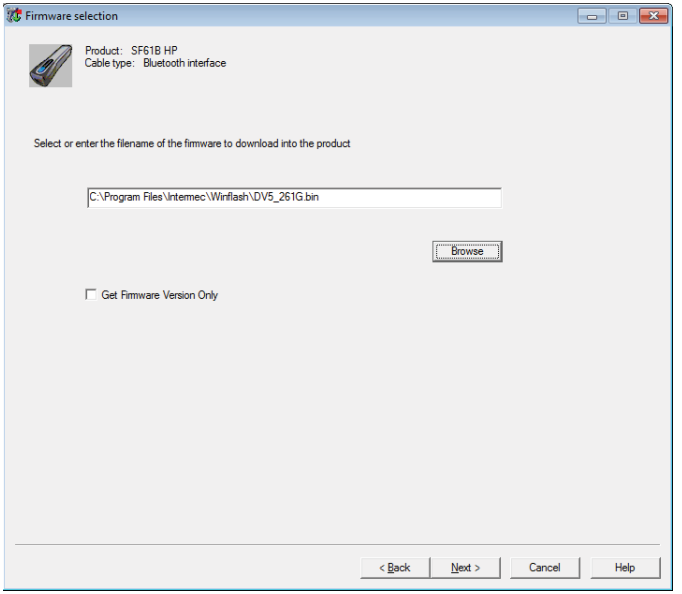
1. Pair your SF61B with your host PC for a host-initiated (Outgoing) SPP Bluetooth connection using the procedures described in Chapter 2, **Connecting the SF61B**:
   - **Pairing with an HID or SPP Bluetooth Connection**
   - **Host-Initiated (Outgoing) SPP Bluetooth Connection**
2. Start the latest version of EasySet and select the **SF61B** product (**Product > Select > Handheld scanners**) if it is not already selected.
3. From the **Tools** menu, select **Upgrade product firmware** to start WinFlash.

   If WinFlash is not already installed you will be asked to install it - click **Yes** and follow the installation instructions.

   If you are connected to EasySet for online setup, a message will ask if you want to quit online setup mode and start WinFlash.exe. Click **Yes** to continue, the scanner disconnects (the blue Intermec Ready-to-Work indicator goes off) and then restarts (2 beeps and vibrate alert by default).
4. Select your scanner model and click **OK**.



5 Click **Browse** to find the correct **.bin** firmware upgrade file you downloaded for your product model and click **Next**.



6 Scan the **Firmware upgrade** bar code that appears on the screen - print out and read the code on this page if you can't read it on the screen.

The scanner emits two beeps and two green flashes to indicate a good configuration bar code read and then blinks with a regular red blink.

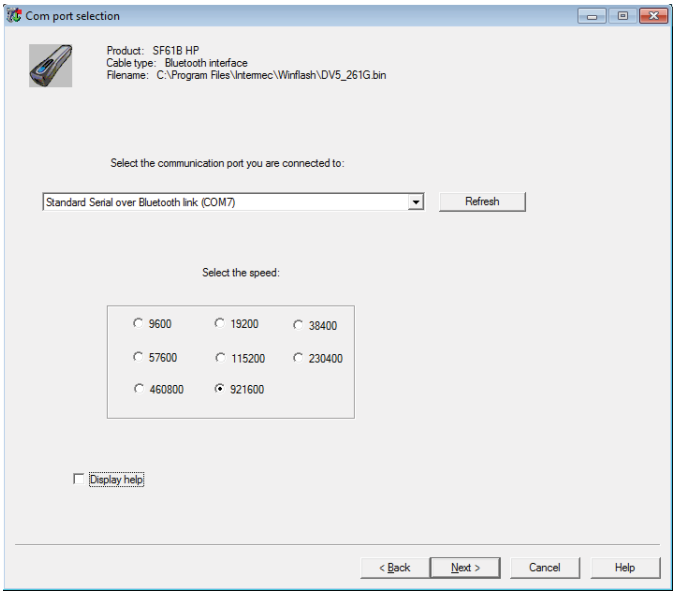
7 Click **OK** to continue.

Note: If you do not proceed with the firmware upgrade procedure within 5 minutes, the scanner performs a restart (emits two beeps and vibrates). Close WinFlash and close EasySet and repeat the entire procedure including removing your SF61B from the host's list of Bluetooth devices and re-pairing with the host system.

If you cannot re-pair successfully after interrupting the software upgrade (you cannot see the Outgoing and Incoming virtual COM ports in your host PC's Bluetooth settings), try the following workaround:

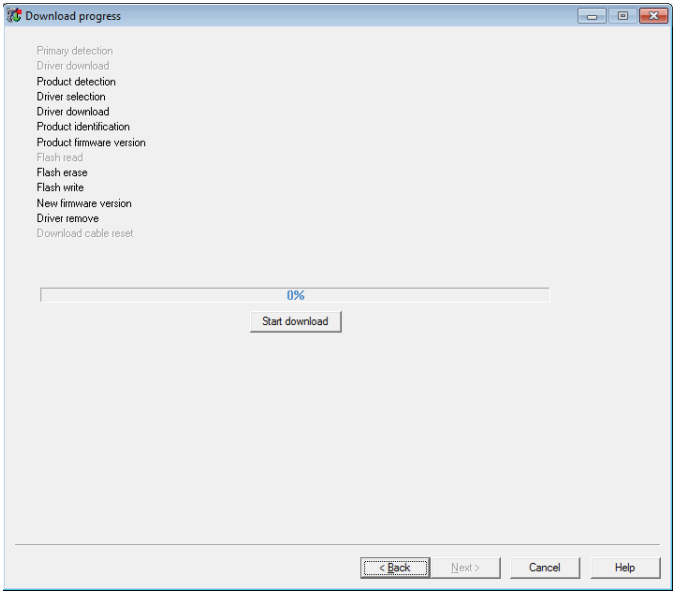
- remove your scanner from your host's device list if present
- pair and connect your scanner using the HID profile
- disconnect your scanner from this HID connection (your scanner should no longer be present in the host's device list)
- repeat the entire firmware upgrade procedure including removing your SF61B from the host's list of Bluetooth devices (if applicable) and re-pairing with the host system

8 Select the Outgoing COM port your SF61B is connected to.



Note: To identify the correct Outgoing port, right-click the Bluetooth icon in the Windows system tray, choose the **Open Settings** option (or equivalent) and look at the **COM Ports** details.

9 Click **Start download**.



Your host PC may display a message saying that a Bluetooth device is trying to connect, if this is the case, click **OK** to launch the upgrade process (you may have to enter your scanner's pairing code, the default pairing code is "0000").

The scanner blinks with a slower red blink when the firmware upgrade has statred and is in progress.

When the firmware upgrade is complete, an "Operation successful" message is displayed in the Download progress window, the scanner emits a "success" beep sequence and then powers down and restarts.

10 Click **Finish**. You have successfully upgraded your scanner firmware.

Note: If the firmware upgrade procedure is interrupted, with a "Can't open communication port" message for example, close WinFlash and close EasySet and repeat the entire procedure including removing your SF61B from the host's list of Bluetooth devices and re-pairing with the host system.

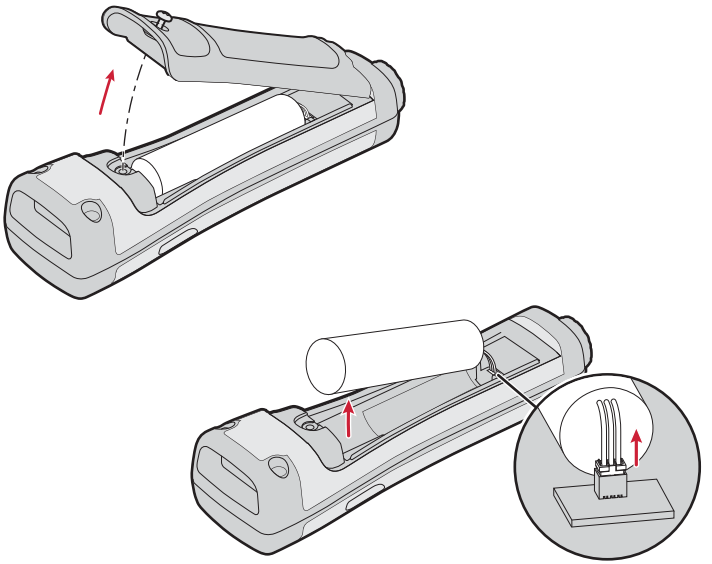
When the firmware upgrade is completed you will need to pair again with your host device and re-establish your Bluetooth connection.

Replacing the Battery of the SF61B

Integrated circuits on printed circuit boards (PCBs) in this equipment are sensitive to damage by electrostatic discharge (ESD). Prevent ESD by always wearing skin contact ground straps firmly attached to the equipment metal base assembly when working inside of the equipment housing. Failure to comply may result in damage to PCB components.

To change the battery

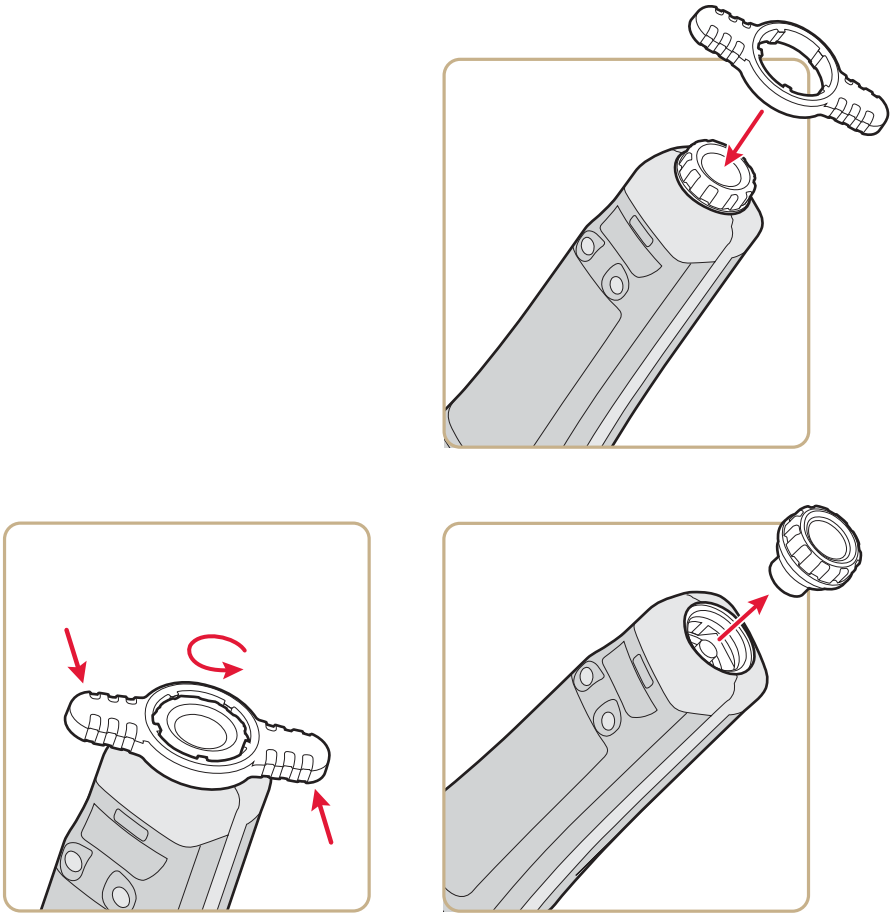
1. Loosen the screw holding the battery cover.
2. Remove the battery cover.
3. Disconnect the battery cable and remove the battery.
4. Install the new battery.
5. Install the battery cover and tighten the screw.



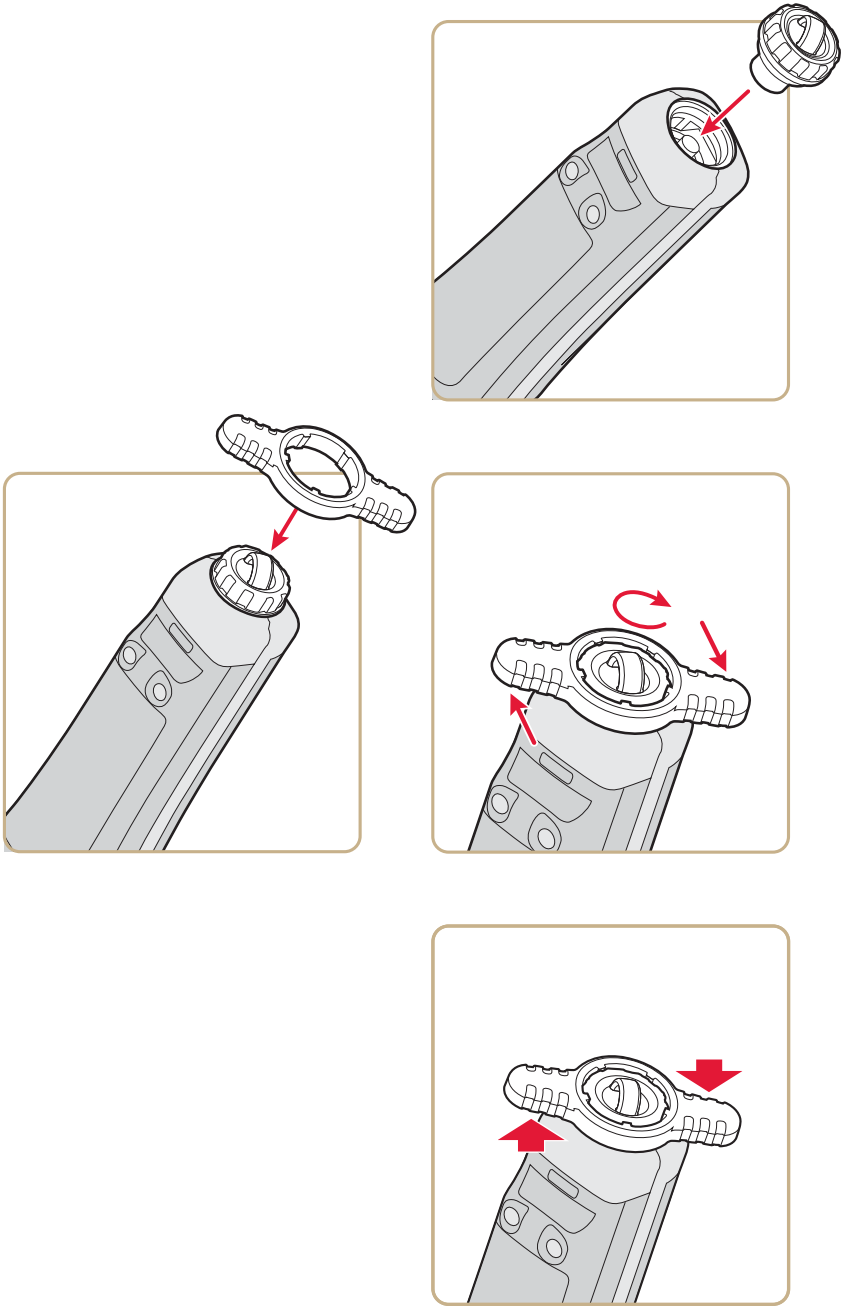
Note: Do not apply excessive pressure to the battery cover when removing and installing the screw (applying excessive pressure on the battery cover during removal/installation may damage your product).

Replacing the End-Caps of the SF61B

Removing the SF61B End-Cap



Installing the SF61B End-Cap



Maintaining the SF61B

Cleaning the SF61B

Opening the SF61B may cause damage to the internal components.

Clean the scanner window as often as needed for the environment in which you are using the SF61B. To clean the scanner window, you can use soapy water or isopropyl alcohol.

To clean the scanner window

1. Dip a clean towel or rag in soapy water or isopropyl alcohol and wring out the excess. Wipe the scanner window. Do not allow any abrasive material to touch the window.
2. Wipe dry with a lint-free cloth.

A

Specifications and Reading Distances

This appendix contains the technical specifications and reading distances for the different SF61B scanner models:

- **Specifications**
- **Reading Distances**

Specifications

Use this section to find technical information about the SF61B scanner models.

Physical Dimensions	
Length	15.6 cm (6.1 in) with magnet end-cap 16.0 cm (6.3 in) with ring end-cap
Height	3.9 cm (1.5 in)
Width	4.6 cm (1.8 in)
Weight	184 g (6.5 oz) with the battery 137 g (4.8 oz) without the battery Battery = 47 g (1.7 oz)

Power and Electrical Specifications	
Operating	Rechargeable lithium-ion battery (2600 mAh)
Electrical rating	⎓ 5V, 2A
ESD sensitivity	± 8 kV (air discharge) ± 4 kV (contact discharge)

Temperature and Environmental Specifications	
Operating	-20°C to 50°C (-4°F to 122°F)
Storage	-40°C to 70°C (-40°F to 158°F)
Charging	0°C to 45°C (32°F to 113°F)
Relative humidity	5 to 95% non-condensing
Shock	40G, half sinus, 6 ms, 6 directions
Vibrations	8G, from 10Hz to 500Hz, 2hr/axis, 3 axes
Tumble test	2000 tumbles at 1m height
Environmental rating	IP65
Ambient light	0 to 100 000 lux

Bluetooth Radio	
Radio Type	Bluetooth Class 1 version 2.1 + EDR
Frequency	2400 - 2483.5 MHz

Scanning Performance	
SF61B1D	Scan angle: 38°
	Minimum X dimension: 4mils (0.1 mm)
	Maximum scan rate: 200 scans/second
	Minimum print contrast: 20%
SF61B2D	Scan angles: 39° horizontal, 25.5° vertical
	Minimum X dimension 1D: 4 mils (0.1 mm) Minimum X dimension 2D: 6.6 mils (0.17 mm)
	Minimum print contrast: 20%
SF61BHP	Scan angles: 34.4° horizontal, 22.2° vertical Framing angles: 30° horizontal, 20° vertical
	Minimum X dimension 1D: 4 mils (0.1 mm) Minimum X dimension 2D: 6.6 mils (0.17 mm)
	Minimum print contrast: 20%

Bar Code Symbologies for 1D Models (SF61B1D)	
Codabar	GS1 DataBar Omni-Directional
Code 11	GS1 DataBar Stacked
Code 39	Interleaved 2 of 5
Code 93/93i	Matrix 2 of 5
Code 128 / GS1-128	MSI
EAN/UPC	Plessey
GS1 Composite (linear only)	Standard 2 of 5
GS1 DataBar Expanded	Telepen
GS1 DataBar Limited	

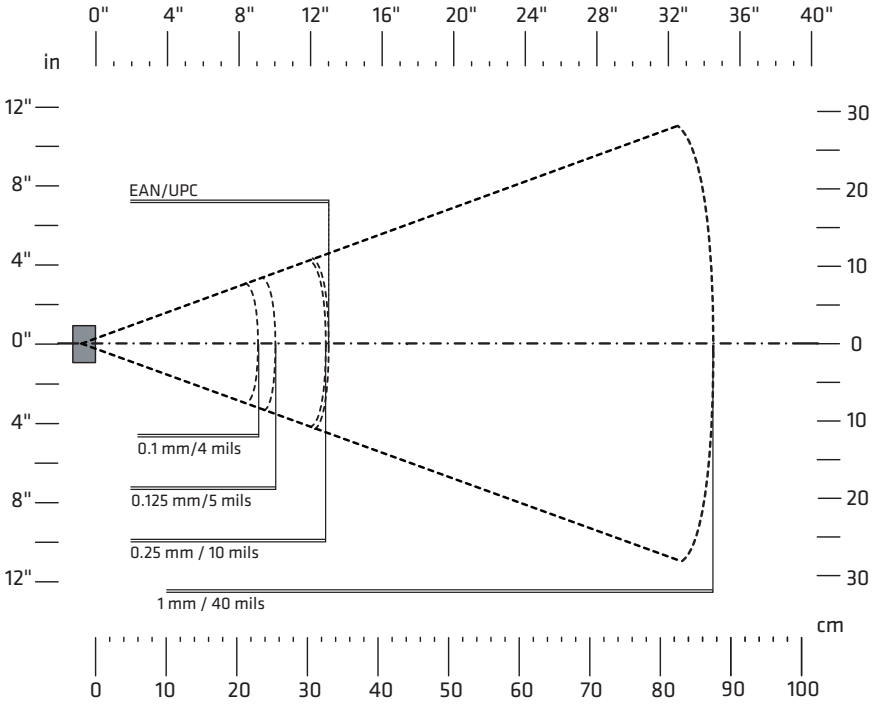
Bar Code Symbologies for 2D Models (SF61B2D, SF61BHP)	
Australian Post	Han Xin Code
Aztec	Infomail
BPO	Intelligent mail
Canada Post	Interleaved 2 of 5
Codabar	Japan Post
Codablock A	Matrix 2 of 5
Codablock F	Maxicode
Code 11	Micro PDF417
Code 39	MSI
Code 93/93i	Multicode
Code 128 / GS1-128	PDF417
DataMatrix	Planet
Dutch Post	Plessey
EAN/UPC	Postnet
GS1 Composite	QR Code
GS1 DataBar Expanded	Standard 2 of 5
GS1 DataBar Limited	Sweden Post
GS1 DataBar Omni-Directional	Telepen
GS1 DataBar Stacked	TLC 39

Reading Distances

Values shown are for typical distances measured from the front end of the scanner bezel in an office environment (200 lux) with extended reading range activated.

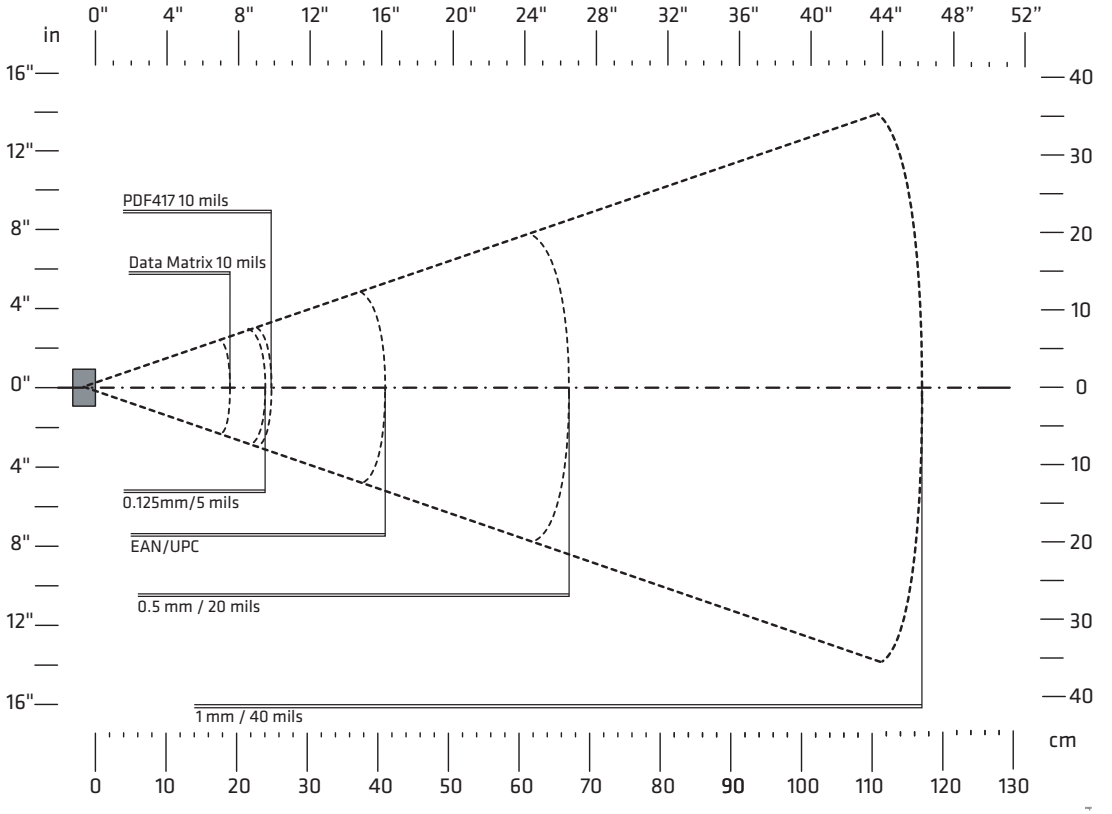
Note: Minimum distances depend on the number of characters encoded in the bar code.

SF61B1D



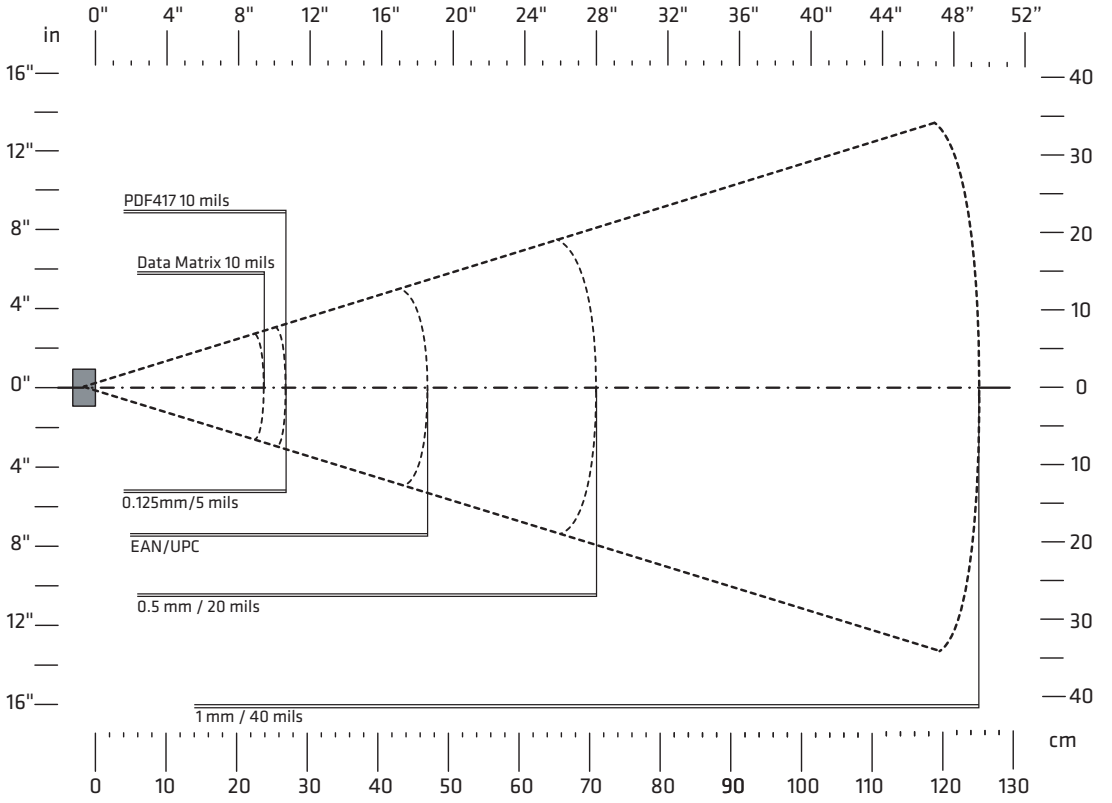
Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.1 mm (4 mils)	6 cm (2.36 in)	23 cm (9.06 in)
	0.125 mm (5 mils)	5 cm (1.97 in)	25.5 cm (10.04 in)
	0.25 mm (10 mils)	5 cm (1.97 in)	32.5 cm (12.80 in)
	1 mm (40 mils)	10 cm (3.94 in)	87.5 cm (34.45 in)
EAN/UPC	0.33 mm (13 mils)	5 cm (1.97 in)	33 cm (12.99 in)

SF61B2D



Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.1 mm (4 mils)	4 cm (1.57 in)	19 cm (7.48 in)
	0.125 mm (5 mils)	4 cm (1.57 in)	24 cm (9.45 in)
	0.5 mm (20 mils)	6 cm (2.36 in)	67 cm (26.38 in)
	1 mm (40 mils)	14 cm (5.51 in)	117 cm (46.06 in)
EAN/UPC	0.33 mm (13 mils)	5 cm (1.97 in)	41 cm (16.14 in)
PDF417	0.25 mm (10 mils)	4 cm (1.57 in)	25 cm (9.84 in)
	0.38 mm (15 mils)	4 cm (1.57 in)	36 cm (14.17 in)
DataMatrix	0.25 mm (10 mils)	5 cm (1.97 in)	19 cm (7.48 in)

SF61BHP



Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.1 mm (4 mils)	5 cm (1.97 in)	22 cm (8.66 in)
	0.125 mm (5 mils)	4 cm (1.57 in)	27 cm (10.63 in)
	0.5 mm (20 mils)	6 cm (2.36 in)	71 cm (27.95 in)
	1 mm (40 mils)	14 cm (5.51 in)	125 cm (49.21 in)
EAN/UPC	0.33 mm (13 mils)	5 cm (1.97 in)	47 cm (18.50 in)
PDF417	0.25 mm (10 mils)	4 cm (1.57 in)	27 cm (10.63 in)
	0.38 (15 mils)	4 cm (1.57 in)	36 cm (14.17 in)
DataMatrix	0.25 mm (10 mils)	6 cm (2.36 in)	22 cm (8.66 in)

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