

Honeywell

IP30C

Handheld RFID Reader
for the 70 Series, CK3, CK65 and CN80

User Guide

Disclaimer

Honeywell International Inc. (“HII”) reserves the right to make changes in specifications and other information contained in this document without prior notice, and the reader should in all cases consult HII to determine whether any such changes have been made. The information in this publication does not represent a commitment on the part of HII.

HII shall not be liable for technical or editorial errors or omissions contained herein; nor for incidental or consequential damages resulting from the furnishing, performance, or use of this material. HII disclaims all responsibility for the selection and use of software and/or hardware to achieve intended results.

This document contains proprietary information that is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced, or translated into another language without the prior written consent of HII.

Copyright © 2021 Honeywell International Inc. All rights reserved.

Web Address: www.honeywellaidc.com

Trademarks

Microsoft and Windows are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

microSD and microSDHC are either trademarks or registered trademarks of SD-3C, LLC in the United States and/or other countries.

Google and Android are trademarks of Google LLC.

Other product names or marks mentioned in this document may be trademarks or registered trademarks of other companies and are the property of their respective owners.

Patents

For patent information, refer to www.hsmpats.com.

TABLE OF CONTENTS

Customer Support	iii
Technical Assistance	iii
Product Service and Repair	iii
For IP30C Non-Incendive (NI) Versions Only (IP30C0B7114)	iii
Limited Warranty	iii
Chapter 1 - Use the IP30C.....	1
About the IP30C.....	1
Unpack the IP30C.....	1
What You Need.....	2
About the LEDs.....	2
About the Ready-to-Work Indicator	3
Use the Battery.....	3
Important Information.....	3
About IP30C Non-Incendive Models (IP30C0B7114)	3
Charge, Install, and Remove the Battery.....	4
Charge the IP30C Battery.....	4
Install the Battery.....	5
Attach or Remove the IP30C.....	5
Attach or Remove the IP30C from the CN80.....	5
Attach or Remove the IP30C from the CN70/CN70e	6
To remove the CN70/CN70e	8
Attach the IP30C to the CK70/CK71	9
Attach the IP30C to the CK3/CK65.....	10
About Pairing the IP30C with the Mobile Computer.....	11

Pair the IP30C by Scanning a Barcode.....	11
Pair the IP30C by Using the Wireless Reader Wizard	12
Accessories for the Computer	13
Chapter 2 - Create and Use RFID Applications	15
RFID Applications and the IP30C.....	15
Use the RFID Resource Kit.....	15
Create Applications for the IP30C.....	16
Configure RFID Settings	16
Configure the BRI Server	16
Chapter 3 - Upgrade and Troubleshoot the IP30C.....	19
Contact Customer Support.....	19
Troubleshoot the IP30C	20
Problems While Working With RFID	20
Problems With Connectivity	21
Upgrade the IP30C Firmware	21
Upgrade the IP30C Firmware Using a Media Card	21
Upgrade the IP30C Using SmartSystems.....	22
Appendix A - Specifications.....	23
IP30C Specifications	23
IP30C RFID Specifications.....	24

Customer Support

Technical Assistance

To search our knowledge base for a solution or to log in to the Technical Support portal and report a problem, go to www.honeywellaidc.com/working-with-us/contact-technical-support.

For our latest contact information, see www.honeywellaidc.com/locations.

Product Service and Repair

Honeywell International Inc. provides service for all of its products through service centers throughout the world. To obtain warranty or non-warranty service, return your product to Honeywell (postage paid) with a copy of the dated purchase record. To learn more, go to www.honeywellaidc.com and select **Service & Repair** at the bottom of the page.

For IP30C Non-Incendive (NI) Versions Only (IP30C0B7114)



Warning: Explosion Hazard - Substitution of components may impair suitability for Class I, II, III Division 2 locations.

Avertissement: Risque d' explosion - Le remplacement de composants risque de compromettre l'adaptation du produit aux sites de catégorie I, II, III division 2.

Limited Warranty

For warranty information, go to www.honeywellaidc.com and click **Resources > Product Warranty**.

USE THE IP30C

Use this chapter to familiarize yourself with the IP30C Handheld RFID Reader. This chapter covers these topics:

- [About the IP30C](#)
- [Use the Battery](#)
- [Attach or Remove the IP30C](#)
- [About Pairing the IP30C with the Mobile Computer](#)

About the IP30C

The IP30C Handheld RFID Reader allows you to connect using wireless technology. Together, the IP30C and your mobile computer provide a high-performance mobile RFID solution that allows you to bring the read/write device to the tagged product rather than moving tagged products past a fixed reader.

The IP30C supports the following mobile computers:

- CK Series Mobile Computers
- 70 Series Mobile Computers
- CK65 Mobile Computers
- CN75 Mobile Computer
- CN80 Mobile Computers

Unpack the IP30C

These items are included with the IP30C:

- IP30C
- Compliance Insert
- Mounting plates (for CK3 Series and 70 Series only)

What You Need

To use the IP30C, you need these items:

- Battery Model AB3
- Battery charger or dock with power supply
- Compatible Honeywell mobile computer
- A custom application to read and write tags. For help, see "RFID Applications and the IP30C" on page 15.

You may also need to upgrade your operating system and SmartSystems™ Platform Bundle (SSPB) before you can connect the IP30C to your mobile computer. To download the latest operating system firmware and SSPB, visit the Honeywell Technical Support Portal at <https://support.honeywellaidc.com>.





Mobile Computer	Required Operating System Version	SmartSystems Platform Bundle Version
CK3X	Windows Embedded Handheld 6.5 version 1.44.16 or higher	N/A
CK3	Windows Mobile 6.1 or later.	SSPB version 6.20 or later.
70 Series	Windows Embedded Handheld 6.5 version 1.44.16 or higher	N/A
CK65	Android 8 or higher	N/A
CN80	Android 8 or higher	N/A


Note: If your 70 Series Mobile Computer has WEH 6.5 version 1.44.16 or earlier, you need to download the RFID support from the website.

For more information on how to upgrade your operating system and SSPB, see your mobile computer user's manual.

About the LEDs

Use the following table to understand the status LEDs on your IP30C.

LED Icon	LED Name	Description
	Ready-to-Work™ indicator	Blue LED remains on when the IP30C is connected to the mobile computer. For more information, see the next section.
	Data Communications	Flashes when there is data communications between the reader and the mobile computer.
	RFID Transmit	Flashes when the IP30C RFID reader is transmitting data.
	Tag ID	Flashes when an RFID tag ID is successfully read or written to.

LED Icon	LED Name	Description
	Battery	Indicates the battery status: <ul style="list-style-type: none"> Green: The battery is fully charged (more than 80% capacity). Orange: The battery is charged (from 20% to 80% capacity). Red: The battery is low (less than 20% capacity).

About the Ready-to-Work Indicator

The blue Ready-to-Work™ indicator shows when a connection is established between your mobile computer and IP30C. The next table explains the different states of the Ready-to-Work indicator.

LED	Description
Off	The IP30C is not yet ready for operation or is in low power mode.
Blinking	The IP30C is not associated with or connected to the mobile computer.
Steady	A connection has been established between the IP30C and the mobile computer.

If there is no host activity after 5 minutes, the IP30C enters low power mode. The IP30C remains Ready-to-Work as long as the mobile computer maintains a communications link. To determine if the IP30C is ready to work, pull the trigger.

Use the Battery

The IP30C uses the Model AB3 or Model AB19 batteries as a main power source.



Warning: The battery used in this device may present a fire or chemical burn hazard if it is mistreated. Do not disassemble it, heat it above 100 °C (212 °F), or incinerate it.

Dispose of used batteries promptly. Keep away from children. Contact your local sales representative for replacement batteries.

Important Information

About IP30C Non-Incendive Models (IP30C0B7114)



Warning: Explosion Hazard-Batteries must only be changed or charged in an area known to be non-hazardous. Use ONLY Honeywell IP30C battery part number AB3.

Avertissement: Risqué d'explosion-Les batteries doivent uniquement être remplacées ou rechargées dans un endroit non dangereux. Utilisez UNIQUEMENT Honeywell IP30C batterie AB3.



Warning: Battery must be locked when using the IP30C NI in a hazardous environment.

Avertissement: La batterie doit être verrouillée lors de l'utilisation du NI IP30C dans un environnement dangereux.

Charge, Install, and Remove the Battery

To charge the IP30C battery you need a power supply, a country specific power cord, and one of the following chargers or accessories:

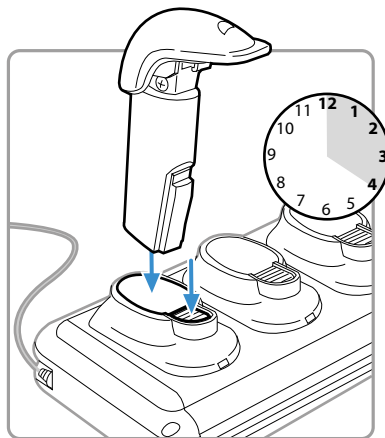
- AC6 2-Bay Charger
- AC7 4-Bay Charger
- AC8 8-Bay Charger
- AC20 Quad Charger with IP30C Battery Pack Adapter
- AD20 Single Charger with IP30C Battery Pack Adapter

Note: *The IP30C does not ship with these accessories. For more information on these accessories, contact your local sales representative.*

Charge the IP30C Battery

A fully discharged battery charges to full capacity in approximately 4 hours.

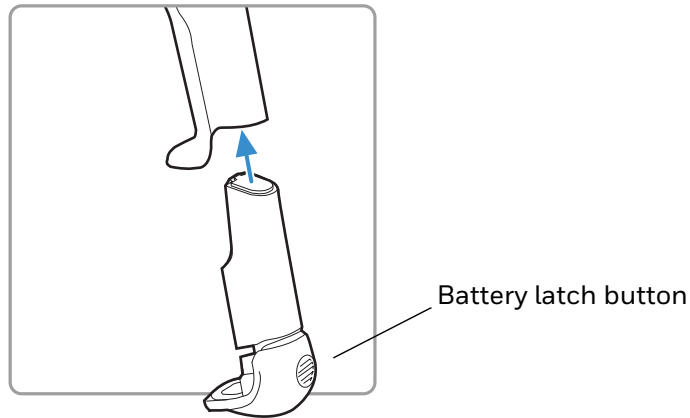
To charge the battery, insert the battery into the battery charger.



Install the Battery

After you charge the battery, you can use the battery with your IP30C.

1. Insert the battery into the IP30C.



2. Push the battery latch button and slide the battery in until the battery is secure.

To remove the battery from the IP30C, push the battery latch button on the bottom of the battery.

Note: Charging the IP30C battery does not charge the mobile computer that is connected to the IP30C. For charging options, see your mobile computer user manual.

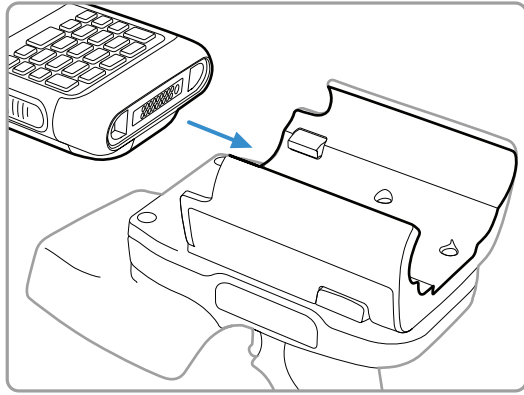
Attach or Remove the IP30C

You can connect the IP30C to a mobile computer using a wireless connection. To learn more about supported mobile computers, see "About the IP30C" on page 1.

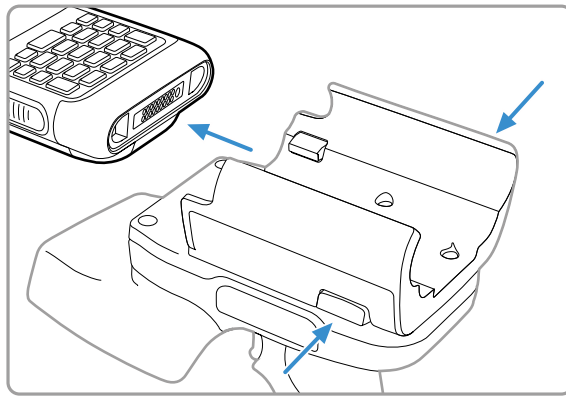
Attach or Remove the IP30C from the CN80

This section explains how to connect the IP30C to your CN80 mobile computer using a wireless connection.

To attach the IP30C, slide the CN80 into the top of the IP30C until you hear a click.



To remove the IP30C, press the two release latches (one on each side) and slide the unit out of the reader.

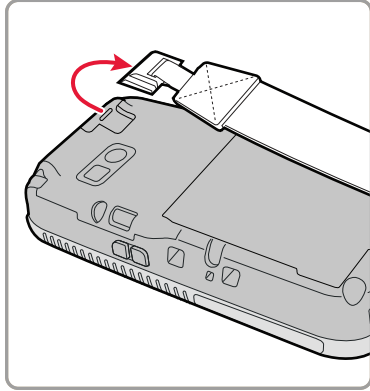


Attach or Remove the IP30C from the CN70/CN70e

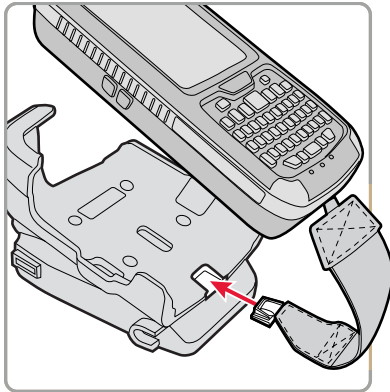
This section explains how to connect the IP30C to your CN70/CN70e using a wireless connection. It might be difficult to remove the mobile computer from the locking bracket. For help, see "To remove the CN70/CN70e" on page 8.

To attach the IP30C:

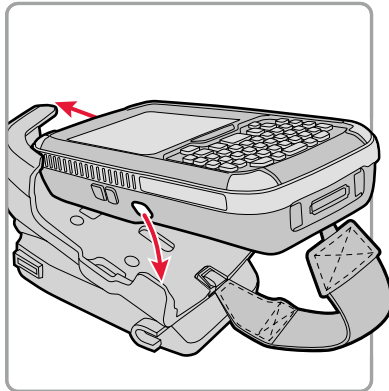
1. Remove the mobile computer hand strap (CN70 shown).



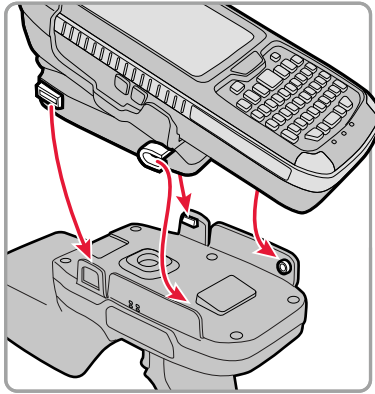
2. Insert the hand strap into the mounting bracket.



3. Lock the computer into place by lowering it into the computer mounting bracket.



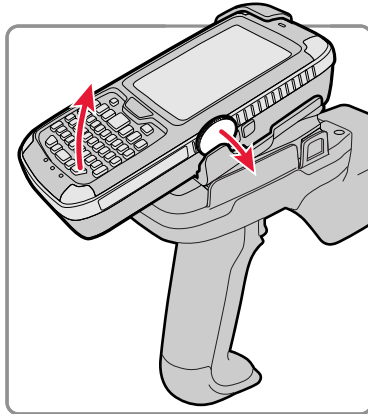
4. Lock the computer into place by angling it into the IP30C locking bracket.



5. Establish a wireless connection. For help, see "About Pairing the IP30C with the Mobile Computer" on page 11.

To remove the CN70/CN70e

1. Insert a coin or similar tool into the locking bracket and carefully leverage the computer out of the bracket.

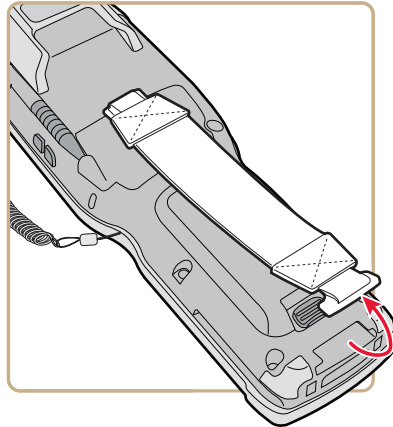


2. Remove the mobile computer hand strap from the locking bracket.

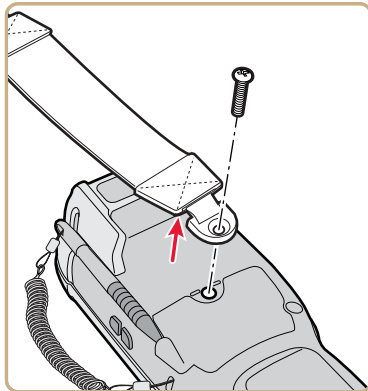
Attach the IP30C to the CK70/CK71

This section explains how to connect the IP30C to your CK70/CK71 mobile computer using a wireless connection.

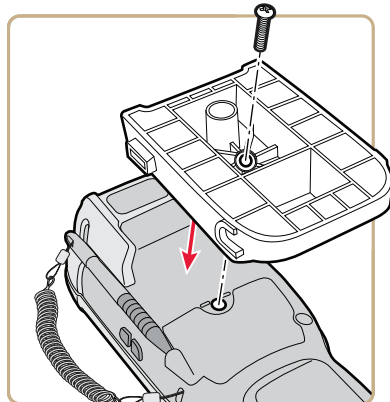
1. Remove the mobile computer hand strap (CK70 shown).
 - a. Detach the hand strap.



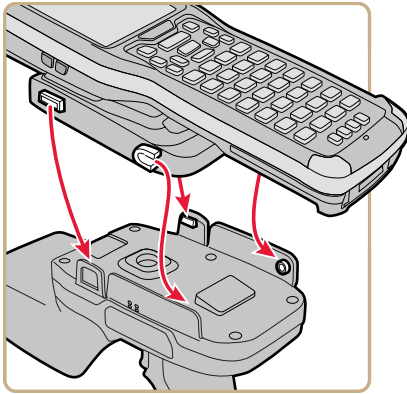
- b. Remove the Phillips head screw.



2. Attach the mounting plate onto the mobile computer using the provided screw.



3. Lock the computer into place by angling the mounting plate into the IP30C locking bracket.



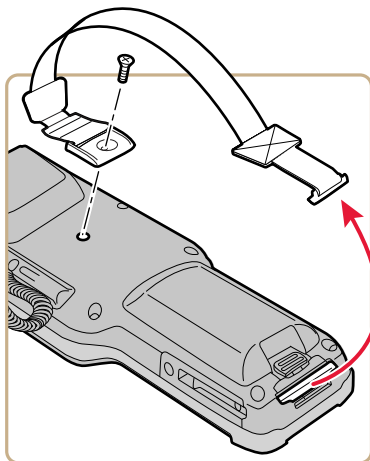
4. Establish a wireless connection. For help, see [About Pairing the IP30C with the Mobile Computer](#) on page 11

To remove the mounting plate and CK70/CK71, point the reader away from you and carefully push down on the bottom of the computer.

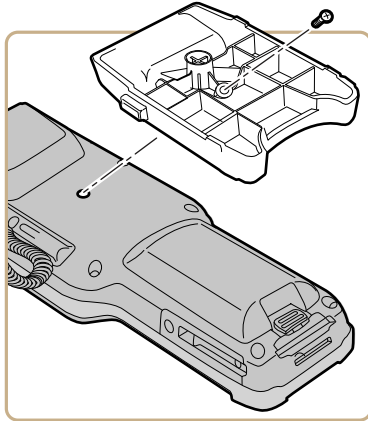
Attach the IP30C to the CK3/CK65

This section explains how to attach the IP30C to your CK3/CK65 mobile computer.

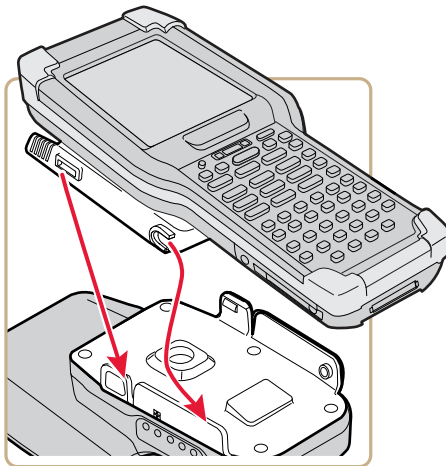
1. Detach the CK3/CK65 hand strap by removing the Phillips head screw (CK3 shown).



2. Attach the mounting plate onto the CK3/CK65 using the Phillips head screw provided with your IP30C. Turn the screw clockwise to secure the mounting plate onto the mobile computer.



3. Lock the CK3/CK65 into place by lowering it into the IP30C locking bracket.



4. See "About Pairing the IP30C with the Mobile Computer" on page 11.

About Pairing the IP30C with the Mobile Computer

Before you can use the IP30C with a wireless connection, you must establish a connection between the IP30C and mobile computer by scanning a 2D bar code on the IP30C (70 series) or by using the Wireless Reader Wizard.

Pair the IP30C by Scanning a Barcode

The 2D bar code on the IP30C automatically launches the Wireless Reader Wizard, enters the Device address for the IP30C, and enters the pass code. Use the barcode to pair a 70 series, CK65, or CN80 mobile computer.

1. Download and install the latest operating system firmware and RFID support onto the mobile computer. For help, see the mobile computer user manual.
2. Make sure wireless connectivity is enabled on your mobile computer. For help, see the mobile computer user manual.
3. Use the mobile computer to scan the 2D bar code on the IP30C.

An initial screen appears letting you know that the IP30C is connecting to the mobile computer and then another screen appears letting you know when the pairing is complete.

Pair the IP30C by Using the Wireless Reader Wizard

1. Make sure wireless connectivity is enabled on your mobile computer. For help, see the mobile computer user's manual.
2. For Windows Mobile 5.0, Windows Mobile 6.1, or Windows Embedded Handheld 6.5, select **Start > Settings > System** and tap the Wireless Readers icon. The Wireless Reader Wizard appears.

For Windows CE, select **Start > Programs > Windows Explorer**. The Windows Explorer screen appears.

- a. Select **Program Files > Intermec > Network**. The Network screen appears.
 - b. Double-tap the Reader Wizard icon.
3. Tap Add Reader. The wizard advances to the next screen.
 4. Select how you would like to find your reader (the default is Search) and then click Next. The computer starts discovering readers. The Devices list appears.
 5. Select the reader you want to connect to and then tap Next.

Note: *The Devices list shows all wireless-enabled data collection devices, including RFID readers. To connect to the IP30C, verify that the serial number you select matches the serial number on the bottom of the IP30C antenna.*

6. When prompted to add the reader to your device list, tap Yes.
7. Enter the pass code for your reader. The default pass code for Intermec RFID readers is 0000.
8. Tap Next. The computer connects to the reader and displays the remote device information.
9. Tap Finish.
10. Refresh Honeywell Settings to see the reader in the RFID menu. You can now configure and modify your device. For help, see "Configure RFID Settings" on page 16.

Accessories for the Computer

The IP30C Handheld RFID Reader ships with a mounting plate, depending on the model. All other accessories are ordered and shipped separately. For help, contact your local sales representative.

Accessory	Description
075082-002	IP30C Battery
318-037-001	Battery w/Boot Accessory: Locking battery for use with NI scanners.
IP30-HB-C	Kit: Single Battery Charger and Adapter
851-812-001	AC Adapter: 12V/60W,2.5X5.5MM,LEVEL VI. Available for PB50/1, CN51, RFID IP30 and FlexDock options
203-980-001	Adapter Kit: Spare CN70 Adapter Plate for IP30
203-981-001	Adapter Kit: Spare CK7x Adapter Plate for IP30
50140076-001	Adapter Kit: Bracket for EDA50K
50147247-001	Adapter Kit: Bracket for CN80

CREATE AND USE RFID APPLICATIONS

This chapter explains how you can use RFID applications for the IP30C and includes these topics:

- [RFID Applications and the IP30C](#)
- [Create Applications for the IP30C](#)
- [Configure RFID Settings](#)
- [Configure the BRI Server](#)

RFID Applications and the IP30C

The IP30C communicates with the mobile computer through the Basic Reader Interface (BRI) Server, which can be accessed in the Application Connection screen within Intermec Settings. The BRI Server controls the reader by issuing various BRI commands.

- To configure the BRI Server, see [Configure the BRI Server](#) on page 16.
- For more information on the BRI, see the *Basic Reader Interface Programmer's Reference Manual* or the *Intermec Settings Command Reference Manual*.

Use the RFID Resource Kit

The Developer Library RFID Resource Kit includes Java and .NET tools you can use to develop applications that control the reader and data management.

The resource kit is available as part of the Intermec Developer Library (IDL). To learn more about the RFID Resource Kit, visit hsmftp.honeywell.com and select **Software > Software and Tools > Developer Library > SDKs for Windows > Intermec Resource Kits > Developer Tools**.

Create Applications for the IP30C

You must create an application for the IP30C before it can read and write tags. Follow this general outline for developing your RFID application:

- Write your application on a development workstation (your desktop PC).
- Install and test the application on your mobile computer.

If you do not have an application but want to verify that your IP30C can read and write tags, you can download the demo application from the Honeywell Software Support website.

1. Visit hsmftp.honeywell.com and select **Software > RFID > RFID Handheld Readers > IP30 Handheld RFID Reader > Current > Demo Software**.
2. Download and install the RFID Mobile Demo Kit onto your mobile computer. For information on how to install applications onto your mobile computer, see your mobile computer user's manual.

Configure RFID Settings

This section explains how you use Intermec Settings to change the settings for the RFID module in the IP30C. As you install and test applications, you can configure the RFID settings for the best system performance.

1. Go to **Intermec Settings** on your mobile computer.
2. For Windows Mobile 5.0, Windows CE, or Windows Embedded Handheld 6.5, tap **RFID > Reader 1 > RFID Module**. The RFID Module screen appears. For Windows Mobile 6.1, tap **RFID > Enable RFID Service** and select the Enable RFID Service check box.
3. Change the RFID settings as needed. For help, see the *Basic Reader Interface Programmer's Reference Manual* or the *Intermec Settings Command Reference Manual*.
4. Save your settings.

Configure the BRI Server

The IP30C BRI server handles communications between your application and the RFID module. You can configure many settings for the BRI server.

1. Go to Intermec Settings on your mobile computer.
2. Tap **RFID > Application Connection**. The BRI application server settings appear.

3. Change the BRI application server settings as needed. For help, see the *Basic Reader Interface Programmer's Reference Manual* or the *Intermec Settings Command Reference Manual*.
4. Save your settings.

UPGRADE AND TROUBLESHOOT THE IP30C

This chapter includes information on upgrading the IP30C and includes these topics:

- [Contact Customer Support](#)
- [Troubleshoot the IP30C](#)
- [Upgrade the IP30C Firmware](#)

Contact Customer Support

If you cannot find the answer to your problem in the “Troubleshooting” section, you may need to contact customer support.

To search our knowledge base for a solution or to log into the Technical Support portal and report a problem, go to www.hsmcontactsupport.com. Before calling Technical Support, be sure you can answer the following questions:

- What were you doing when the error occurred?
- What error message did you see?
- Can you reproduce the problem?
- What is the IP30C serial number?
- What versions of the IP30C and RFID software are you using? For help viewing software versions, refer to your mobile computer user’s manual.

For our latest contact information, see www.honeywellaidc.com/locations.

Troubleshoot the IP30C

This section includes a list of problems and possible solutions.

Problems While Working With RFID

Many problems that you may encounter when working with your RFID system can be solved by carefully checking the RFID settings. For help, see [Configure RFID Settings](#) on page 16.

Use the troubleshooting table to help solve problems with your IP30C RFID.

Problem	Solution
The IP30C is unable to read RFID tags, or seems to read tags slowly or inconsistently.	<ul style="list-style-type: none">• Make sure you have an active wireless connection between your IP30C and mobile computer. See "About Pairing the IP30C with the Mobile Computer" on page 11• Make sure you choose the correct tag types to maximize IP30C performance. See "Configure RFID Settings" on page 16• Adjust the FIELDSTRENGTH higher. See "Configure RFID Settings" on page 16 for more information on how to adjust this attribute.• The IP30C uses a linear antenna. It can only read a tag's antenna which is oriented in the same way as the IP30C antenna. A tag's antenna is oriented the same as the IP30C antenna if the tag element is parallel to the front edge of the IP30C antenna.• Move slightly closer or farther from the tag. Environmental factors can reduce the read range or create dead spots, and moving the reader can help pick up more tags or hard-to-read tags.• Make sure there are no metal objects or other objects on the antenna. Large rings or hand jewelry can also affect the performance of the IP30C.• Make sure the mobile computer is working properly. The IP30C will not work as well if there are too many applications running in the background.• Make sure your battery is fully inserted into the handle.• Make sure your battery is not low; it may affect the performance of the IP30C.
The IP30C does not respond to your RFID application.	<ul style="list-style-type: none">• Make sure your application is communicating with the IP30C, the BRI server on your mobile computer, or both.• You may need to change BRI server settings to communicate with your application. See "Configure the BRI Server" on page 16.

Problems With Connectivity

The IP30C connects to your mobile computer via a wireless connection. For information on connecting your mobile computer, see [About Pairing the IP30C with the Mobile Computer](#) on page 11. Use the troubleshooting table to help solve problems with your IP30C connectivity.

Problem	Solution
You cannot connect to the IP30C via a wireless connection.	<ul style="list-style-type: none">• Make sure your wireless connectivity is enabled and that you have established a connection between your IP30C and your mobile computer.• Make sure your IP30C is not connected to a different mobile computer.• Make sure that the battery is fully inserted and latched into the handle. See "Use the Battery" on page 3.• Set the BTPWROFF attribute in Intermec Settings to its default value of 500. See the Intermec Settings Command Reference Manual.• Make sure your IP30C battery has power. See "About the LEDs" on page 2

Upgrade the IP30C Firmware

This section explains how to upgrade the IP30C firmware using your mobile computer. There are two ways to upgrade your IP30C:

- Use a media card.
- Use SmartSystems.

To download the latest upgrade files, visit the HoneywellTechnical Support Portal at <https://support.honeywellaidc.com>.

Upgrade the IP30C Firmware Using a Media Card

To upgrade the IP30C firmware, you need:

- A media card. The CN3 uses a miniSD™ card, the CK61 uses an SD card, and the 70 Series and CK3 use a microSD™ card.
- A media card reader (optional).

You can use any file transfer method (ActiveSync, FTP server, and so on) to copy the upgrade files to your media card. It is recommended that you use a media card reader.

1. Make sure you have an active wireless connection with your mobile computer and IP30C. For help, see [Attach or Remove the IP30C](#) on page 5.
2. Download the device upgrade (.cab) file from the Intermec website to your desktop PC.
3. Load the upgrade (.cab) file onto the media card.

4. Insert the media card into your mobile computer.
5. The upgrade (.cab) file automatically installs onto the IP30C.

Upgrade the IP30C Using SmartSystems

You can use the SmartSystems Console to upgrade the firmware on your IP30C. The console is part of SmartSystems Foundation, which is available from the HoneywellTechnical Support Portal at <https://support.honeywellaidc.com>.

1. Make sure you have an active wireless connection with your mobile computer and IP30C. For help, see [Attach or Remove the IP30C](#) on page 5.
2. Make sure that your mobile computer is Discovered in the SmartSystems Console. For information, see the SmartSystems Foundation Online help.
3. Download the device upgrade (.exe) file onto your desktop PC.
4. Double-click the application file to install it. The application file appears in the software vault.
5. From the SmartSystems Console in the software vault, locate the upgrade file, and drag-and-drop it to the mobile computer.

SPECIFICATIONS

This appendix includes physical and electrical specifications for the IP30C.

IP30C Specifications

Height	19 cm (7.5 in)
Length	19 cm (7.5 in)
Width	10.1 cm (4 in)
Weight	.43 kg (1.9 lbs) without mobile computer.
Power	Removable lithium-ion battery pack
Electrical rating	x 3.7 V, 2400 mA
Operating temperature	-15 °C to 50 °C (5 °F to 122 °F)
Operating temperature (IP30C)	-20 °C to 60 °C (-4 °F to 140 °F)
Storage temperature	-30 °C to 70 °C (-22 °F to 158 °F)
Humidity (non-condensing)	10 to 95%
Antenna type	Linear polarized
Enclosure	IP64 compliant
Drop survival	Withstands 1.3-m (4-ft) drops to concrete, 26 times

IP30C RFID Specifications

Protocols supported	EPCglobal Class 1 Gen 2 ISO 18000-6B ISO 18000-6C
Frequency range	U.S.A.: 902-928 MHz* EU: 865.6-867.6 MHz*
Output power U.S. FCC: 902-928 MHz* EU ETSI: 865-867 MHz*	Output power up to 30 dBm, depending upon the model and the region where the IP30 is configured to be used.
Read range (typical maximum)	Over 6 m (20 ft) at 30 dBm**
Write range (typical maximum)	Over 1.8 m (6.0 ft) at 30 dBm**

Note: *Maximum output power and operating frequency varies from country to country based on the regulations.
Read and write range varies based on tag performance, reader antenna gain, reader output power, and environmental conditions.*

Honeywell
9680 Old Bailes Road
Fort Mill, SC 29707

www.honeywellaidc.com