IDM1xx Bluetooth
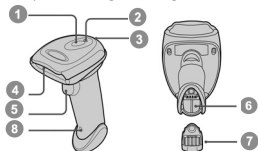# Hand-held Scanners

Hand-held Line

SICK

Sensor Intelligence.

1. How to use this guide

This document provides a quick reference for installation and operation IDM Bluetooth scanners. A complete user guide can be found on ***www.sick.com.*** The document contains a collection of codes that allow you to configure the IDM. Factory default values are marked with a ◆ symbol. To configure the device scan one or in some cases a sequence of codes. In some cases you also need to scan option codes contained in the back of this quick start guide. ***Eine deutsche Version der Kurzanleitung steht auf www.sick.com zur Verfügung –*** *for german version of quick start, check www.sick.com.*
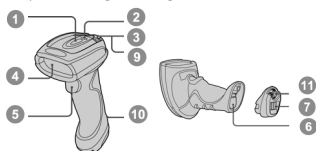
2. Getting familiar with your IDM scanner
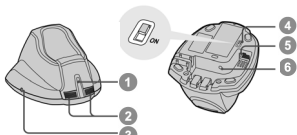
IDM140BT Series Scanner   **IDM160BT Series Scanner**

1 Status Indicator	**5** Trigger	**9** Tether Plate
2 Link Indicator	**6** Battery Cavity	**10** Lanyard Catch
3 Beeper	**7** End Cap	**11** Retaining Screw
4 Scan Window	**8** Reset Button	

IDM140BT Smart Cradle   **IDM160-BT Smart Cradle**
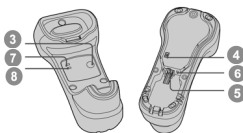
1 Center Indicator	**5** Host Interface Port
2 Side Indicators	**6** DC Power Jack
3 Paging/Reset Button	**7** Upper Indicator
4 USB 3.0 Bus Power Switch	**8** Lower Indicator

IDM140BT Charging Cradle   **IDM160-BT Charging Cradle**
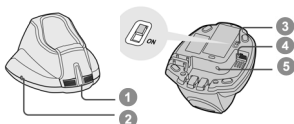
1 Power Indicator	**4** Host Interface Port
2 Reserved	**5** DC Power Jack
3 USB 3.0 Bus Power Switch	
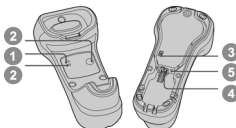
3. Preparations before Using

Install the Battery

1. Ensure the battery contacts of the battery pack are facing the charging contacts inside the battery cavity.
2. Slide the battery pack into the battery cavity until hearing a click sound before locking it with the end cap. The scanner will give 4 beeps when the battery pack is installed properly if the battery pack still has power.
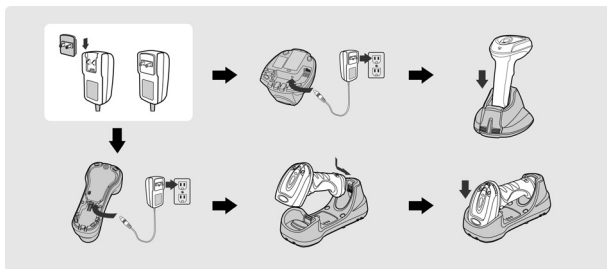3. Secure the end cap with the screw provided (IDM140BT) or via turning the integrated thumb wheel (IDM160BT)

You can use the overlapping battery label to pull out the battery if needed.

Charge the Battery

1. Plug the AC power plug into the appropriate AC wall socket.
2. Plug the DC power cord of the power supply unit into the DC power jack of the cradle. The cradle will issue the power on beeps. The center (IDM140BT cradle) or upper (IDM160BT cradle) indicator of smart cradle will give **one blue blink.** The power indicator of charging cradle will turn **steady blue**.
3. Place the scanner on the cradle. The status indicator of scanner will turn **steady red** if the battery is not fully charged. When the battery is fully charged, the status indicator of scanner will **flash green** at regular interval.

Please charge the new battery pack for 8 hours prior to the first use.

Use USB Bus Power

1. If **USB 3.0** is available in your host device, both battery charging and regular operation can be supported by the USB Bus Power without using external power supply.
2. If you want to use this feature, please slide the USB bus power switch to "**ON**". Then connect the cradle and host device via USB cable.

4. Decide Your Radio Link Mode

The IDM Bluetooth image scanners provide several radio link modes to communicate with most host devices. When the Bluetooth-enabled host device is not available, it can work with the smart cradle in PAIR mode (one to one connection) or PICO mode (multiple connections) to provide a plug-and-play cordless migration of your existing non-Bluetooth-enabled IT assets. Moreover, you are also able to use the scanner to work with Bluetooth-enabled host devices via SPP master/slave modes and HID mode.

After losing the radio link, the scanner is capable of resuming the radio connection automatically when it returns to the communication coverage. But please note that this feature is not available in SPP slave mode. If you would like to change the radio link mode, you have to scan the "Uninstall" command to revert the scanner to uninstall state.

PAIR Mode - 1 scanner connected to one cradle

If the Bluetooth device is not available in your existing system, this is the simplest plug-and-play solution. In this mode, one scanner can only work with one smart cradle. The smart cradle not only provides the Bluetooth radio link with the scanner, but also offers the legacy cabled interfaces to the host device, including USB HID, USB COM, PS/2(DOS/V) Keyboard Wedge and RS232 Serial.

PICO Mode – up to 7 scanners connected to one cradle

For the requirement of multiple connections, up to 7 scanners can be connected to one smart cradle concurrently. If you would like to un-pair all paired scanners and smart cradle, you can simply press and hold the paging/reset button of the smart cradle for over 5 seconds. If you just want to un-pair part of the paired scanners, please take those paired scanners to scan the "Uninstall" command one by one.

HID Mode - HID communication directly to Bluetooth host without cradle

Through the most helpful HID service, the scanner can work like a Bluetooth keyboard. In this mode, the scanner is discoverable by the radio connection request issued by a remote host device. For security purpose, you will be requested to input the PIN Code to establish the Bluetooth connection in most time.

SPP Master/Slave Mode - Serial communication directly to Bluetooth host without cradle

Through the standard SPP service, the scanner can work like a serial input device. In SPP master mode, the scanner initiates the radio connection request to a remote slave device. In SPP slave mode, the scanner is discoverable by the radio connection request issued by a remote master device.

4.1 Using IDM BT in PAIR Mode

1 Ensure the battery is fully charged. You may refer to the section of **Preparations before Using** for details.

2 Please choose your desired interface cable, then plug it into the host interface port of the smart cradle and connect it to the host device.

USB **PS/2** **RS232**

3 Turn on the power of your host device.

4 Please note that the scanner has been pre-paired already, if the scanner is shipped together with the smart cradle. You will see the link indicator of scanner gives 1 blue blink per 2.5 seconds and the centre (IDM140BT cradle) or upper indicator (IDM160BT cradle) of smart cradle turns steady blue. If the scanner and smart cradle just give **alternating red and green blinks** (in "**Uninstall**" state), please follow steps 5-6 to establish the connection between the scanner and the smart cradle.

5 Scan "PAIR mode" command. The status indicator of scanner will turn steady red.

Uninstall

PAIR Mode

6 Place the scanner on the smart cradle, then you will hear one short beep to indicate the pairing process is activated. The scanner will give continuous short clicks and the link indicator of scanner will flash blue quickly during the pairing process. When you hear 4 beeps in ascending tone, the pairing process is completed. You will see the link indicator of scanner giving **1 blue blink per 2.5 seconds** and the center/upper indicator of the smart cradle turning **steady blue**.

If the scanner pairing process failed or it's not placed on the smart cradle within 20 seconds, you will hear 2 "Di-do Di-do" beeps to indicate pair failure, the scanner will return to uninstall state automatically.

7 Scan the corresponding host interface quick set command to complete the installation.

📝 **The default host interface of smart cradle is USB HID. If you want to set the interface to USB COM, you have to install the USB virtual COM software driver (available on www.sick.com) into your host device before using the scanner. All host interface quick set codes can be found on page 13 of this guide.**

4.2 Using IDM BT in PICO Mode

1 Ensure the battery is fully charged and choose your desired interface cable, then plug it into the host interface port of the smart cradle and connect it to the host device.

USB   **PS/2**   **RS232**

2 Turn on the power of your host device.

3 Ensure the side indicators (IDM140BT cradle) or lower indicator (IDM160BT cradle) of the smart cradle give **alternative red and green blinks** (in "**Uninstall**" state). If the smart cradle is paired with other scanners, you can press and hold the paging/reset button for **over** 5 seconds to un-pair all paired scanners. Then the smart cradle will return to uninstall state automatically.

4 Prepare the scanners you desire to pair with the smart cradle. Ensure the status indicator of each scanner give **alternative red and green blinks** (in "**Uninstall**" state). If the scanner is not in uninstall state, please scan the "Uninstall" command to un-pair the scanner. Then scan the "PICO mode" command, and the status indicator of scanner will turn steady red.

Uninstall

PICO Mode

5 Place the scanner on the smart cradle, then you will hear one short beep to indicate the pairing process is activated. The scanner will give continuous short clicks and the link indicator of scanner will flash blue quickly during the pairing process. When you hear 4 beeps in ascending tone, the pairing process is completed. You will see the link indicator of scanner giving **1 blue blink per 2.5 seconds**, the center/upper indicator of the smart cradle turning **steady blue** and its side indicators (IDM140BT cradle) or lower indicator (IDM160BT cradle) turning **steady green**.

If the scanner pairing process failed or it's not placed on the smart cradle within 20 seconds, you will hear 2 "Di-do Di-do" beeps to indicate pair failure, the scanner will return to uninstall state automatically.

6 Please scan the corresponding host interface quick set command to complete the installation. Then follow the same procedures to pair other scanners with the smart cradle.

📝 **For your convenience, the smart cradle automatically assigns ID numbers to each scanner. Once you completed all pairing processes, please scan the "System Information" code to check the assigned ID number of each scanner.**

4.3 Using IDM BT in HID Mode

① Ensure the battery is fully charged. Power on the scanner within radio range and ensure the status indicator of scanner gives **alternating red and green blinks** (in "**Uninstall**" state). If the scanner is not in uninstall state, please scan the "Uninstall" command first. Then scan the "HID Mode" command, and the link indicator of scanner will give 3 blue blinks per 2 seconds.

Uninstall

HID Mode

② Execute the Bluetooth Discovery procedure to find all available Bluetooth device list in your remote host. You will see ''IDMxxxBT-xxxx'' is shown in the list if the scanner is successfully discovered already.

③ Double click the "IDMxxxBT-xxxx" in the discovered Bluetooth device list. If the PIN Code or Passkey is requested for security connection, please enter "**00000000**" (default setting). You will see "Keyboard on IDMxxxBT-xxxx", and double click this HID service to establish the connection between the scanner and the remote host device.

④ The scanner will give 4 beeps in ascending tone to indicate the radio is connected. At the same time, the link indicator of scanner will give 1 blue blink per 2.5 seconds to indicate the scanner is in radio-connected state.

Please note that if the scanner is not connected to the host device within 1 minute after scanning the "HID Mode" command, the scanner will go to sleep automatically. You just need to press the trigger to wake up the scanner to continue the installation.

1. The installation procedures vary on different remote host devices, operating systems and the Bluetooth software drivers. Please consult your professional IT consultant to obtain necessary support if any problem has been encountered during the installation processes.

2. While using HID mode, beware of potential error in the data transmission when radio link quality is poor. You are suggested to use the scanner under the communication coverage all the time.

4.4 Using IDM BT in SPP Mode

Establish SPP Master Connection

1 Ensure the battery is fully charged. Please go to the folder of "**Hardware**" located in Bluetooth Advanced Setting of the remote host device to check its device MAC address. Then prepare a 12-character Code 128 barcode of the remote host device MAC address, or follow the step 4 to input MAC address by scanning 12 option codes (see back of quick start guide).

2 Ensure a virtual COM port is available in your remote host for connecting the scanner. If not, please go to the folder of "**Local Services**" located in Bluetooth Advanced Setting. Click the "**Add Serial Services**" to add one more Bluetooth COM port.

3 Power on the scanner within radio range and ensure the status indicator of scanner gives **alternating red and green blinks** (in "**Uninstall**" state). If the scanner is not in uninstall state, please scan the "Uninstall" command first. Then scan the "SPP Master Mode" command, and the status indicator of scanner will turn steady red.

Uninstall

SPP Master Mode

4 Scan a 12-character MAC address barcode, or scan 12 option codes and "FIN" command to confirm your inputs. The scanner will give continuous short clicks and the link indicator of the scanner will flash blue quickly during the radio connection process. If the PIN Code or Passkey is requested for security connection, please enter "**00000000**" (default setting).

5 The scanner will give 4 beeps in ascending tone to indicate the radio is connected. At the same time, the link indicator of scanner will give 1 blue blink per 2.5 seconds to indicate the scanner is in radio-connected state.

Please note that if the scanner failed to connect to the host device within 30 seconds, the link indicator will give 3 blue blinks per 2 seconds. But the scanner is still continuing to discover the host device for another 30 seconds before go to sleep. In the interim, you still can scan "Uninstall" command to revert the scanner to uninstall state. If the scanner goes to sleep already, you just need to press the trigger to wake up the scanner to continue the installation.

✎ **The installation procedures vary on different remote host devices, operating systems and the Bluetooth software drivers. Please consult your professional IT consultant to obtain necessary support if any problem has been encountered during the installation processes.**

Establish SPP Slave Connection

1 Ensure the battery is fully charged and a virtual COM port is available in your remote host for connecting the scanner. If not, please go to the folder of "**Client Applications**" located in Bluetooth Advanced Setting. Click the "**Add COM Port**" to add one more Bluetooth COM port.

2 Power on the scanner within radio range and ensure the status indicator of scanner gives **alternating red and green blinks** (in "**Uninstall**" state). If the scanner is not in uninstall state, please scan the "Uninstall" command first. Then scan the "SPP Slave Mode" command, and the link indicator of scanner will give 3 blue blinks per 2 seconds.

Uninstall

SPP Slave Mode

3 Execute the Bluetooth Discovery procedure to find all available Bluetooth device list in your remote host. You will see ''IDMxxxBT-xxxx" is shown in the list if the scanner is successfully discovered already.

4 Double click the "IDMxxxBT-xxxx" on the discovered Bluetooth devices. If the PIN Code or Passkey is requested for security connection, please enter "**00000000**" (default setting). You will see "Serial Port on IDMxxxBT-xxxx", and double click this SPP service to establish the connection between the scanner and the remote host device.

5 The scanner will give 4 beeps in ascending tone to indicate the radio is connected. At the same time, the link indicator of scanner will give 1 blue blink per 2.5 seconds to indicate the scanner is in radio-connected state.

Please note that if the scanner is not connected to the host device within 1 minute, the scanner will go to sleep. You can press the trigger to wake up the scanner to continue the installation.

✍ **The installation procedures vary on different remote host devices, operating systems and the Bluetooth software drivers. Please consult your professional IT consultant to obtain necessary support if any problem has been encountered during the installation processes.**

5. Out-of-range Scanning

When the radio is connected between the scanner and the remote host device, the scanner will transmit each scanned data right after scanning the barcode. However, the scanner is preset for being unable to scan any barcode data when it loses the radio connection with the remote host device.

If you enable the out-of-range scanning function, the scanner is able to continue scanning barcode data while it is out of working range. All scanned data will be temporarily stored into the memory buffer until radio link resumed.

Enable Out-of-range Scanning

Disable Out-of-range Scanning ◆

In case of the scanner is out of working range, you will hear 4 beeps in descending tone to indicate the radio connection lost. The link indicator of scanner will give 3 blue blinks per 2 seconds. Once the scanner is back to working range, you will hear 4 beeps in ascending tone to indicate the radio connection rebuilt and the scanner will give 1 blue blink per 2.5 seconds. At the same time, all stored scanned data will be transmitted automatically right after the radio link is resumed.

6. Presentation Scanning

The Presentation Scanning is designed for hand-free applications for user's convenience. If the "Presentation Scanning Auto-sense" function is enabled, the scanner is capable of automatically switching to presentation mode when you place it onto the Stand or cradle.

Enable Presentation Scanning Auto-sense

Disable Presentation Scanning Auto-sense ◆

🖉 Presentation scanning on cradle is only available for IDM140BT.

7. Paging Function

The paging function is helpful for you to locate the paired smart cradle or scanner. If you would like to page the paired smart cradle, you can scan "Paging" command. If you would like to page the paired scanner, you can press the paging/rest button of the smart cradle **no longer** than 5 seconds.

Paging

8. Batch Scanning (Inventory Mode)

Thanks to the specially designed Batch Scanning function, the scanner is capable of storing the barcode data up to 20,000 EAN-13 labels. It is an ideal cost-saving solution for inventory applications.

Once you scan the "Enter Batch Scanning" command to activate this function, all scanned barcode data will be stored into the memory storage, and the status indicator of scanner will give **green blink** at regular interval during batch scanning. You can scan and store the barcode data till the memory storage is full. If the storage is full, you will hear 2 long beeps and the status indicator will give 2 red blinks to indicate out of storage. To terminate the batch scanning, please scan the "Exit Batch Scanning" command.

Enter Batch Scanning

Exit Batch Scanning

How to Transmit Stored Data

The scanner is preset so you need to scan the "Transmit Stored Data" command to transmit all stored data. During the transmission process, the scanner will give continuous short clicks and blue blinks. Then the scanner will give two short beeps after data transmission is completed.

Transmit Stored Data

But you are also able to set the scanner to transmit the stored data by placing the scanner onto the cradle.

Transmit Stored Data by Scanning Barcode Command ◆

Transmit Stored Data by Placing Scanner onto Cradle

Transmit Stored Data by Scanning Barcode or Placing Scanner onto Cradle

The scanner is preset to keep all the stored data until you scan the "Clear All Stored Data" command. But you are also able to change the setting to "Auto Delete Stored Data after Transmission".

Auto Delete Stored Data after Transmission

Keep Stored Data after Transmission ◆

Clear All Stored Data

If you scanned a wrong barcode, the "Delete Last Scanned Data" command is helpful to recover mistake. By scanning this code, the last stored data can be deleted.

Delete Last Scanned Data

Using Quantity Feature

If you want to add a quantity information to the barcode data, you can enter the quantity from 1 to 9999 by scanning the quantity barcodes below right after you scanned the barcode data. The quantity information will be stored into the memory storage together with the barcode data.

Quantity 0

Quantity 4

Quantity 7

Quantity 1

Quantity 8

Quantity 5

Quantity 2

Quantity 9

Quantity 6

Quantity 3

There are two ways to output the stored barcode data and quantity information. Please refer to following for details:

1.) Stored data is transmitted as many times as the quantity indicated (default).

2.) Stored data is transmitted together with quantity information in two fields. Please scan "Enable Quantity Field Transmission" command to enable this function. The preset delimiter is " ، ", but you are also able to choose your desired delimiter using IDM Bluetooth Reference Manual (available on www.sick.com).

Disable Quantity Field Transmission ◆

Enable Quantity Field Transmission

9. Link Mode Quick Set

Uninstall

PICO Mode

SPP Master Mode

PAIR Mode

HID Mode

SPP Slave Mode

10. Host Interface Quick Set
(Work with Smart Cradle only)

RS232 Serial

PS/2 (DOS/V) KBW Standard Mode

USB HID Standard Mode ◆

USB Com Port Emulation

Keyboard Replacement

PS/2 (DOS/V) KBW Turbo Mode

USB HID Turbo Mode

11. Keyboard Layout Quick Set

USA ◆

United Kingdom-UK

Latin America

France

Canadian French

Nertherlands

Germany

Spain

Japan

13

12. System Commands

System Information

IDM Set Up Link

Paging

Factory Default

Master Default

Save Configuration

Factory Default: After scanning" Factory Default" command, all parameters will be returned to factory default value (The radio link will be disconnected and the scanner will revert to uninstall state).
Master Default: After scanning "Master Default" command, the scanner will remain the pre-set parameters of Host Interface Selection, Keyboard Interface Control (except Record Suffix; Preamble; Postamble), Serial Interface Control (except Record Suffix; Preamble; Postamble), Wand/Laser Emulation Control, Bluetooth Device Name, Bluetooth PIN Code & Out-of-range Scanning, the rest of parameters will be returned to default value (The radio link is still keep on).
IDM Set Up Link: The "IDM Set Up Link" code is needed when connecting IDM to IDM Set Up Tool software.

13. Operation Mode Quick Set

Trigger Mode ◆

Presentation Mode

14. Option Codes

0

1

2

3

4

5

6

7

8

9

A

B

C

D

E

F

FIN (Finish)

END (Exit)

15. Indications
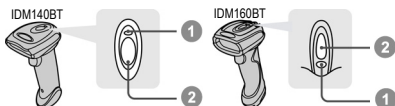
1 Link Indicator
2 Status Indicator

Descriptions	Link Indicator	Beeper
Radio connected	1 blue blink per 2.5 sec.	Off
Radio disconnected	3 blue blinks per 2 sec.	Off
During connection	Quick blue blinks	Short clicks
Radio connection built	1 blue blink per 2.5 sec.	4 beeps in ascending tone
Radio connection lost	3 blue blinks per 2 sec.	4 beeps in descending tone
Data Transmission	Quick blue blink	Short clicks

Descriptions	Status Indicator	Beeper
Under charging (on cradle)	Steady red	Off
Fully charged (on cradle)	1 green blink at regular interval	Off
Under batch scanning	1 green blink per 2.5 sec.	Off
Pair failure	Steady red	2 Di-do Di-do beeps
Out of memory	2 red blinks	2 long beeps
Battery power low	1 red blink at regular interval	1 beep at regular interval
Battery power extremely low	8 red blinks	8 beeps
Good read	1 green blink	1 good read beep
Under Configuration	Steady red	Off
Uninstall state	Alternative red and green blinks	Off
Upgrade state	Steady red	Short click
Time out warning	Off	3 long beeps
Paged by smart cradle	Off	6 page beeps
Sleep state / Battery no power	Off	Off
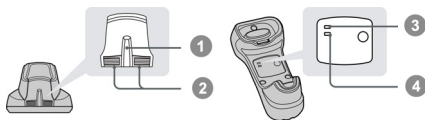
1 Center (Power) Indicator
2 Side Indicators
3 Upper (Power) Indicator
4 Lower (Status) indicator

IDM BT Charging Cradle Indication

Descriptions	Power	Beeper
Power on	Steady blue	Off

IDM BT Smart Cradle Indications

Descriptions		Indicators		Beeper
		Center/Upper	Side/Lower	
Power on		1 blue blink	Off	Power on beeps
Smart Cradle Upgrade State		Off	Steady red	Short clicks
Uninstall state		Off	Alternative red-green blinks	Off
PICO Mode	Radio Connected	Steady blue	Steady Green	Off
	Radio Disconnected	Off	Steady red	Off
PAIR Mode	Radio Connected	Steady blue	Off	Off
	Radio Disconnected	Off	Steady red	Off
Smart cradle paged by scanner	PICO Mode	Steady blue	Steady green	6 page beeps
	PAIR Mode	Steady blue	Off	6 page beeps

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