

KOAMTAC

KDC180



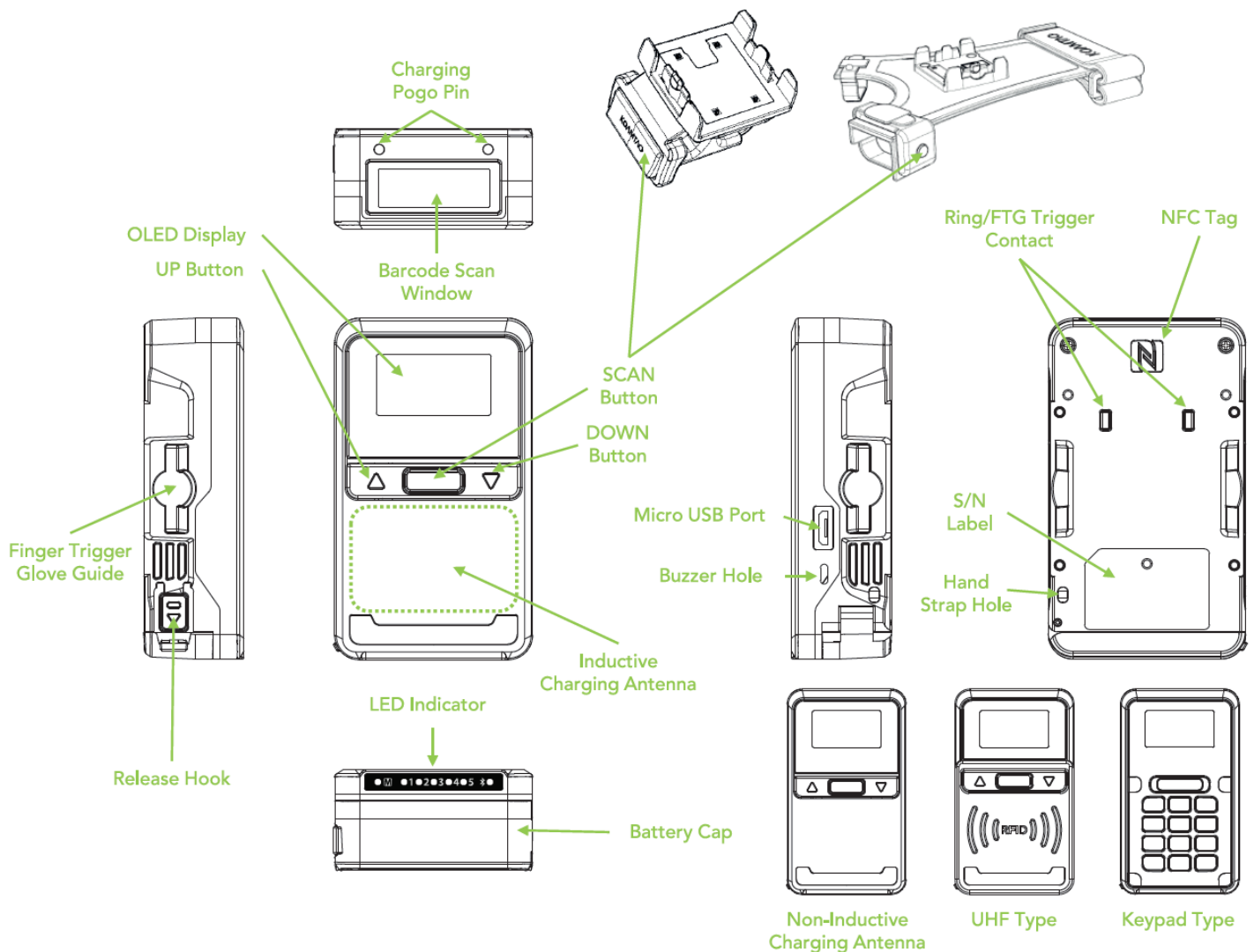
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1. Product Introduction

The KDC180 Bluetooth barcode scanner is a 2D Imager Bluetooth Barcode Data Collector and it has several variations: KDC180 with inductive charging, KDC180 with keypad, KDC180 with UHF RFID reader, and KDC180 with UHF RFID reader and no barcode scanner. They all support Bluetooth Low Energy (BLE) v5.0.

1.1 KDC180 Diagram



1.2 How to turn on and off

Refer to the figure in [section 1.1](#) to locate the SCAN and DOWN buttons.

Note: The trigger on the Ring Scanner and Finger Trigger Glove work as SCAN buttons.

On the keypad variation, the DOWN button is in the lower area.

- a) Press and hold the SCAN + DOWN buttons simultaneously for 3 seconds.
- b) The KDC will beep when it is turned ON.

2. Pairing (Bluetooth or NFC)

Connecting your KDC using Bluetooth is made easy with the below pairing barcodes.

If using an Android device, pairing via NFC is even easier: just approaching the KDC to the back of the host device's NFC area is enough for pairing. For more details, see [section 2.3](#)

2.1 Bluetooth Profiles Explained

- a. **HID Profile**: Allows one-way Bluetooth communication with an Android or iOS host device. The KDC only transmits data to the host device.
- b. **SPP Profile**: Allows two-way Bluetooth communication. The KDC transmits data to the host device and the host device can transmit data back to the KDC.
- c. **HID Windows Profile**: Allows one-way Bluetooth communication with Windows host device. The KDC only transmits data to the host device.
- d. **OPEN Profile**: A Bluetooth Low Energy (BLE) standard mode called "guest mode" which does not need to be paired. It supports bi-directional communication.

Note: HID inputs data directly into an application. SPP/OPEN requires the KOAMTAC SDK to input data into an application. To gain access to the SDK, please complete the form here: <https://www.koamtac.com/sdk/>

2.2 Bluetooth Pairing a KDC180 to your smart device with special barcodes

Bluetooth Profile & Pairing
#1. HID (Android, iOS, Mac) & Pairing

#2. HID (Windows) & Pairing

#3. SPP & Pairing


- Navigate to the Bluetooth setting on the host device and ensure that Bluetooth is both enabled and searching for devices.
- Using the KDC, scan the pairing barcode above that corresponds to your desired Bluetooth profile. If you are unsure which Bluetooth profile is right for you, please refer to [Chapter section 2.1](#).
 - If you use an Android, iOS, or Mac device and desire an HID connection, then scan barcode #1 above.
 - If you use a Windows device and desire an HID connection, then scan barcode #2 above.
 - If you desire an SPP connection for any device, then scan barcode #3 above.
- In HID or HID Windows Profile, check the list of available Bluetooth devices on your host device. From the list, select the KDC180 listed by serial number in brackets that matches the serial number found on the back side of the KDC180. KDC180 will beep upon connection and display "Bluetooth Connected" on its screen. Now it is ready to use.
- In SPP Profile for non-iOS, check the list of available Bluetooth devices on your host device. From the list, select the KDC180 listed by serial number in brackets that matches the serial number found on the back side of the KDC180. KDC180 will beep upon connection and display "Bluetooth Connected" on its screen, but you should launch KTSync or your application and select KDC180 within the application to complete the connection. Now it is ready to use.

- e. In SPP Profile for iOS, the KDC is NOT listed on your host device, so you should launch KTSync or your application and select the KDC180 listed by serial number in brackets that matches the serial number found on the back side of the KDC180. KDC180 will beep upon connection and display "Bluetooth Connected" on its screen. Now it is ready to use.

2.3 Bluetooth Pairing a KDC180 to your smart device with NFC (Android Only)

This feature applies only to Android. KDC may be paired in either HID or SPP only.

- a. Navigate to the NFC setting on the host device and ensure that Bluetooth is both enabled and searching for devices.
- b. On the KDC, make sure NFC pairing is enabled by navigating to KDC MENU → BLE Config → NFC Pairing → Enabled → Save & Exit.
- c. On the KDC, select the pairing profile by navigating to KDC MENU → BT Config → Connect Device → Select HID or SPP → Save & Exit.
Or, select the profile using the special barcodes below:

Select Bluetooth Profile
#1. HID Profile (Android Only)

#2. SPP Profile (Android Only)


- d. Approach the NFC area on the back of the host device with the KDC to complete pairing.

2.4 Special Profile: OPEN Profile

In OPEN profile, an application can connect to a KDC without pairing.
If you desire an OPEN connection for any device, scan barcode #4 below.

Select Special Profile
#4. OPEN Profile


3. Usage

3.1 Using Keyboard Wedge (HID Keyboard)

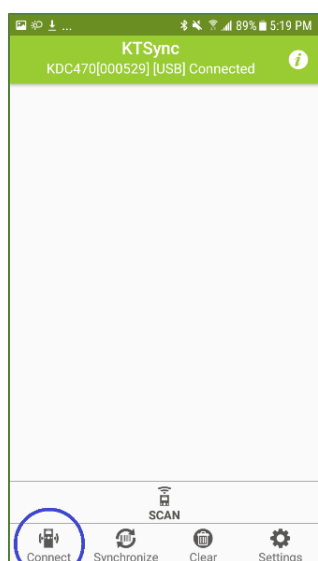
This option is only available using Bluetooth connection with HID profile.

Once the KDC is paired with the host, open any application with a text field and tap on the text field. Scan any barcode and it will populate in the text field.

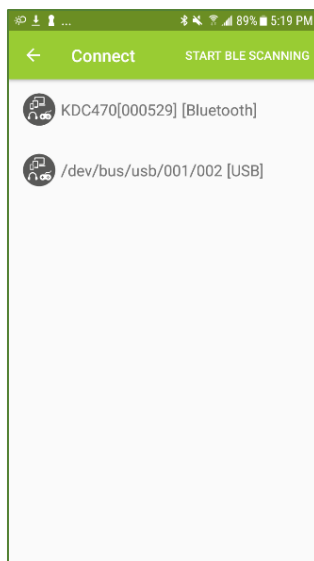
3.2 Using KTSync – Android/iOS

You can use KTSync to utilize your KDC alone or with a native application. This is only available using a Bluetooth connection with SPP or MFi.

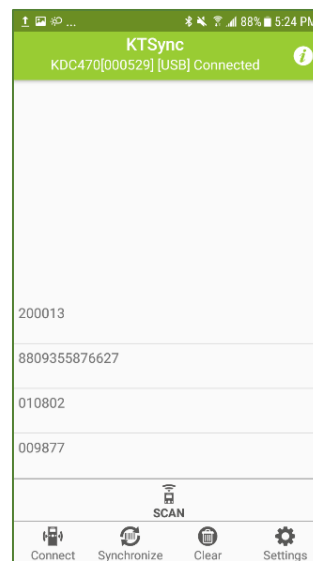
- Download and install KTSync from the [Google Play Store](#) or the [Apple App Store](#).
- Open KTSync and tap on the “Connect” option on the bottom left to view a list of available devices. (Fig. 1)
- From the device list, select your KDC – ensuring that the serial number displayed in brackets matches the serial number on the back of your KDC. (Fig. 2)
- Upon successful connection, KTSync will display “Connected” next to the name of your KDC at the top of the application. (Fig. 3)
- To test your connection, scan any barcode. If the connection is successful, the barcode data will display on the screen. (Fig. 3)



< Fig. 1 >



< Fig. 2 >



< Fig. 3 >

In OPEN profile, an application can connect to a KDC without pairing, so the connection procedure is a little different.

- In the KTSync app, tap the Connect icon at the bottom left of the app.
- In KTSync, tap "Start BLE Scanning" in the top right.
- In KTSync, check the list of found devices.
- In KTSync, tap the KDC180 listed by serial number in brackets followed by [BLE] that matches the serial number found on the back side of the KDC180. The format will look like this, KDC180[xxxxxx] [BLE], where xxxxxx is the serial number.
- The KDC180 will beep upon connection and display "Bluetooth Connected" on its screen. Now it is ready to use.



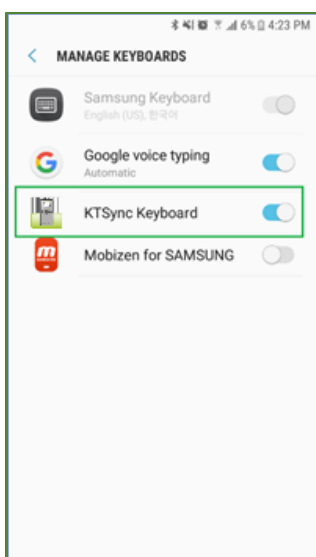
< Fig. 4>

3.3 Using KTSync Keyboard – Android

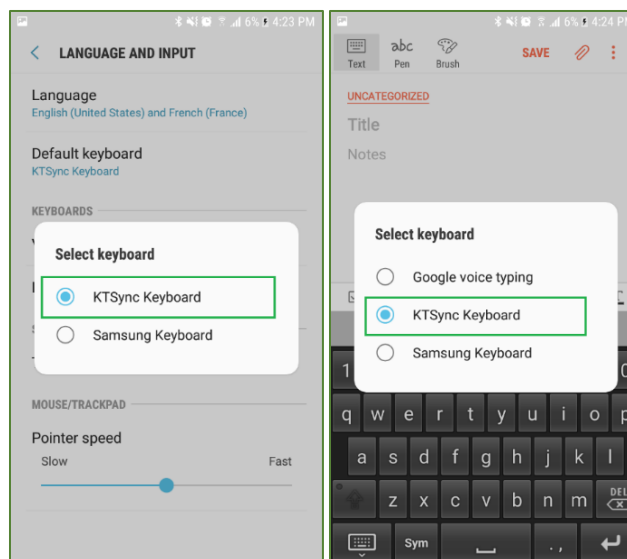
Once your KDC is connected to KTSync, you can use your KDC as a keyboard.

- While KTSync is running in the background, navigate to Settings > Language & Input > Virtual Keyboard > Manage keyboards
- Tap on “KTSync Keyboard” to enable it.
- Change “KTSync Keyboard” to the default keyboard. (Fig. 5)

To switch back to the previous keyboard, simply change the default keyboard again. Or, when a text field is selected swipe down from the top of the screen to bring up the notification panel. Select ‘choose input method’ and you can select the default keyboard from here. (Fig. 6)



< Fig. 5 >

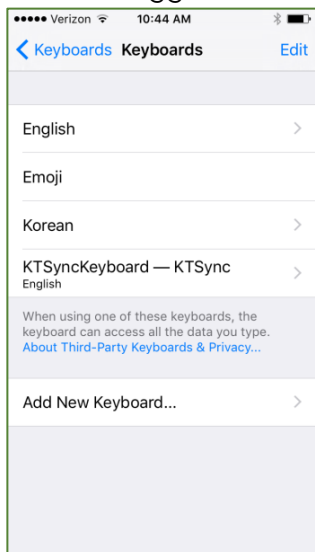


< Fig. 6 >

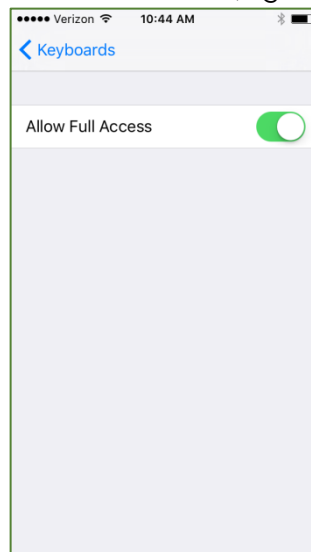
3.4 Using KTSync Keyboard – iOS

Once your KDC is connected to KTSync, you can use your KDC as a keyboard.

- Navigate to the iPhone/iPad/iPod Settings > General > Keyboard > Keyboards > Add New Keyboard... > Select the KTSync keyboard to be added. (Fig. 7)
- Select the KTSync Keyboard and toggle the switch to Allow Full Access. (Fig. 8)

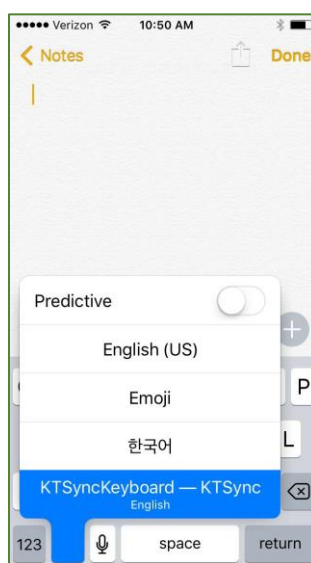


< Fig. 7 >



< Fig. 8 >

- Open the application you want to scan into and tap on the screen, so the on-screen keyboard appears.
- Press and hold the globe icon located to the left of the spacebar.
- Select the KTSync Keyboard and begin scanning. (Fig. 9)



< Fig. 9 >

Note: The KDC must be connected to KTSync & the KTSync keyboard must be selected for this to work.

See Reference Manual for more detailed information

Visit store.koamtac.com to purchase additional KDCs and accessories.

3.5 Using other Developed Applications with SDK – Android/iOS

A Software Development Kit (SDK) for Android and iOS is available to all KOAMTAC customers to ensure smooth development of applications that work seamlessly with a KDC scanner. It's easy to request the SDK from the KOAMTAC website:

- On any web browser, open www.koamtac.com
- Navigate to Support > Downloads > [SDK](#)
- Complete the form and submit it.

After submission, a KOAMTAC representative will reach out regarding next steps for completing the SDK Agreement.

The SDK package will have libraries, documents, a sample application and its source code.

SDK Request Form

Fields marked with an * are required

First Name *

Last Name *

Company *

Email *

Phone *

Project/Application Description *

Submit

4. Product Specifications

Physical	Design	Companion Bluetooth Barcode Scanner
	Size	<u>Wireless/Keypad</u> : 1.57" x 2.72" x 0.8" (40 mm x 69 mm x 20.3 mm) <u>UHF</u> : 1.57" x 2.72" x 1.1" (40 mm x 69 mm x 27.1 mm)
	Weight	<u>Scanner Only</u> : 2.23 oz (63.2 g) <u>Wireless</u> : 2.30 oz (65.3 g) <u>Keypad</u> : 2.30 oz (65.3 g) <u>UHF</u> : 2.87 oz (81.5 g) <u>UHF Only (Non-scanner)</u> : 2.66 oz (75.4 g) <u>Ring Trigger Only</u> : 0.73 oz (20.6 g) <u>Glove Only</u> : 1.76 oz (50 g) <u>Battery Only</u> : 0.76 oz (21.5 g)
Functionality	Supporting OS	Android / iOS / Tizen / Windows / Mac OS X
	Keys	<u>Default</u> : Scan Key, Up Key, Down Key <u>Keypad Module</u> : Scan Key, Up Key, Down Key, Numeric Keys (1, 2,3,4,5,6,7,,8,9,0)
	Buzzer	Yes
	LED Indicator	7 Tri-color LED (Red / Amber / Green)
	USB Port	1 Micro USB Port
Memory	RAM	SDRAM 64KB
	ROM	Internal Flash ROM 512KB (256KB for Program, 256KB for User Data)
	Barcode Storage	13,000 Barcodes (EAN-13)
Power	Battery (Standard)	1,010 mAh Lithium-ion
	Charging Solution	USB Connector / Charging Cradle
	Charging Time	4 Hours
Communication	Bluetooth	Bluetooth Low Energy V5.0, HID/SPP/OPEN
	USB	USB to Serial (Micro USB Connector)
Barcode Reader	1D/2D Symbology	Yes
	# of scans per charge (1 sec interval)	> 20,000
	# of scans per charge (10 sec interval)	> 10,000
	Scan Range (20mil Code39)	1.73 to 31.5 in (44 to 800 mm)
	Screen Reading	Yes

	Postal Codes / OCR Passport	Yes
RFID Details (Optional)	Supported Standards	IEPC Class1 Gen2, EPC Gen2 V2
	Nominal Read Range	1.5'+ (0.5m+) dependent on tag type and operating environment
	Frequency	US, EU, JP, KR
	Output Power Range	Up to +27dBm
	Read Rate	100 tags per second
	Tag Storage	> 21,000 RFID tags (in case of 12 bytes of EPC Data)
Environment	Drop Spec	6 ft (1.8 m)
	IP Rating	IP65
	Operating Temp.	-44 °F to 122 °F (-20 °C to 50 °C)
	Storage Temp.	-4 °F to 140 °F (-20 °C to 60 °C)
	Humidity Spec	5% ~ 95% (non-condensing)
Regulatory Conformance	Laser Safety	IEC60825-1 (Class II)
	LED Safety	IEC62471:2006
	Regulatory	R&TTE, FCC, KC, TELEC, VCCI, SRRC, RoHS Compliant
Accessories	2-Slot Charging Cradle	Yes
	10-Slot Charging Cradle	Yes
	Finger Trigger Glove	Yes
	Ring Scanner	Yes
	Protective Boot	Yes

5. How to Use Tizen WebApp Demo Application (Only for KDC180/280)

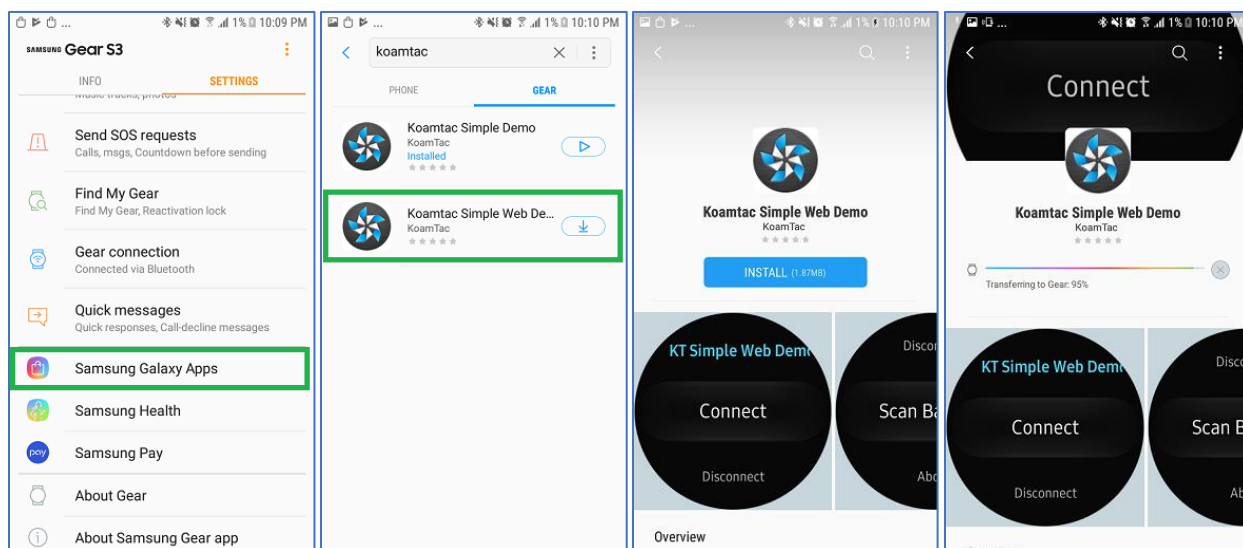
KDC180 and KDC280 have BLE (Bluetooth® Low Energy) V5.0 and V4.1 each instead of Bluetooth V2.1 and support the below three profiles:

- OPEN – It is a Bluetooth Low Energy standard mode called **Guest mode** which doesn't need to be paired. It supports bi-directional communication.
- SPP – It is a KOAMTAC-specific custom profile which provides bi-directional communication in the paired mode.
- HID – It is a Bluetooth Low Energy standard profile which supports Human Interface Device similar to a keyboard or mouse. It is required to be paired first.

To connect with Gear S3, you can use OPEN profile or SPP profile from the KDC, but to run the current demo application from KOAMTAC, you should use SPP profile to connect with Gear S3:

5.1 Connect the phone to Gear S3 and Install the demo application

- Download Galaxy Wearable (Samsung Gear) application from Play Store. (Please make sure your phone supports Galaxy Gear S3.)
- Connect the Samsung Gear to your smartphone. (You can refer to the link to learn how to connect: <http://www.samsung.com/ca/support/skp/faq/1119975>)
- On the Gear press the home button and scroll to settings. Scroll down and select Connect to a New Phone. On the phone, open the Samsung Gear application and search for nearby Gear devices. Select your Gear from the list and confirm the passcode on both devices.
- From Galaxy Store, search Koamtac apps, which is "Koamtac Simple Web Demo" App and install it on Gear S3.

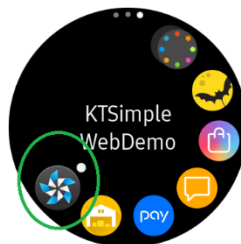


5.2 Pair/Connect KDC with Gear S3

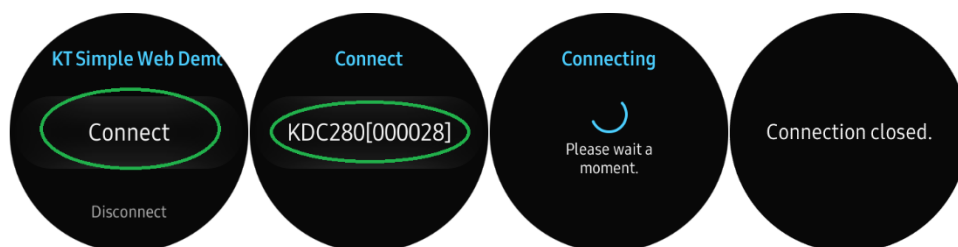
- Put KDC180/KDC280 into SPP mode and start pairing (you can also see [Chapter 2](#) in this document)



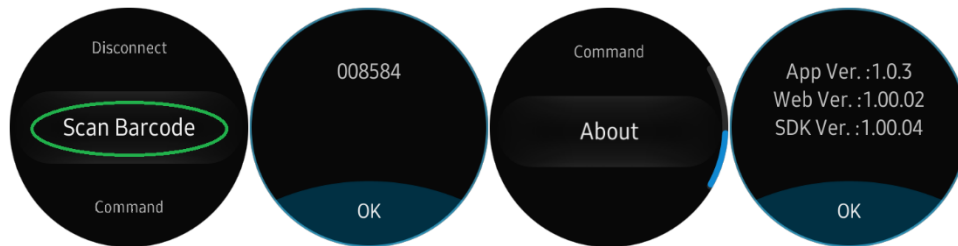
- Run KTSimpleWebDemo on your Gear S3.



- Tap "Connect" and the available devices will be listed on your Gear S3. Tap the KDC from the list of available devices to connect. The number between the brackets refers to the serial number located on the back of the KDC.



- Now you can trigger the KDC scanner via the demo application or the KDC itself. Any scanned bar code will be displayed on the Gear S3. There are also many commands that can be used to view or set the configuration of the KDC.



- If the KDC becomes disconnected or if you disconnect the current KDC, you can reconnect it later by selecting Connect from the Gear S3.

