

## 1. Empower hardware USB connections, button, and LEDs

Please refer the Quick Start Guide for an overview of ports, buttons and indicator lights.

Item	Usage
Micro USB connection	Provides power to Empower and charge the battery
USB3.0 connection	Data port to the phone or the PC via USB cable. Currently, this USB 3.0 port only supports USB micro B cable.
On/OFF switch	Button to power on and off Empower. When Empower is off, push this button to power on Empower. When Empower is on, push this button twice to power off Empower.
Power on indicator	The LED indicates the Empower power status. This LED is on and green, which indicates the Empower is power on. This LED is off, which indicates the Empower is power off.
Charging indicator	The LED indicates the Empower charging status. A yellow light indicates the Empower battery is charged. Once this LED is off, the Empower battery is fully charged.

## 2. Empower battery usage

Once you first receive the Empower, please fully charge it before use. Empower is optimized for around 35 minutes of continuous use. It is recommended to connect the power charger whenever possible. In general, we suggest “ABC” (always be charging).

## 3. Empower cannot power on

You may encounter issues turning the Empower on when battery is near depletion. Please fully shut Empower down, charge for at least 2 minutes, and try again.

## 4. Install Vysor on the PC

Vysor is an extension for the Google Chrome browser that connects to an app on your smartphone, enabling you to control your phone from your PC using the mouse/trackpad and keyboard. Assuming you have Chrome installed, you can visit the following link to download:

<https://chrome.google.com/webstore/detail/vysor/gidgenkbbabolejbgbpnhbimgjbffefm?hl=en-US> .

## 5. Install adb tool on the PC

You can download ADB tool for Windows in the link below. Unzip it, and also add adb into the Windows environment variables.

[https://dl-ssl.google.com/android/repository/platform-tools\\_r23-windows.zip](https://dl-ssl.google.com/android/repository/platform-tools_r23-windows.zip)

## 6. Install/upgrade FingoService on the Empower

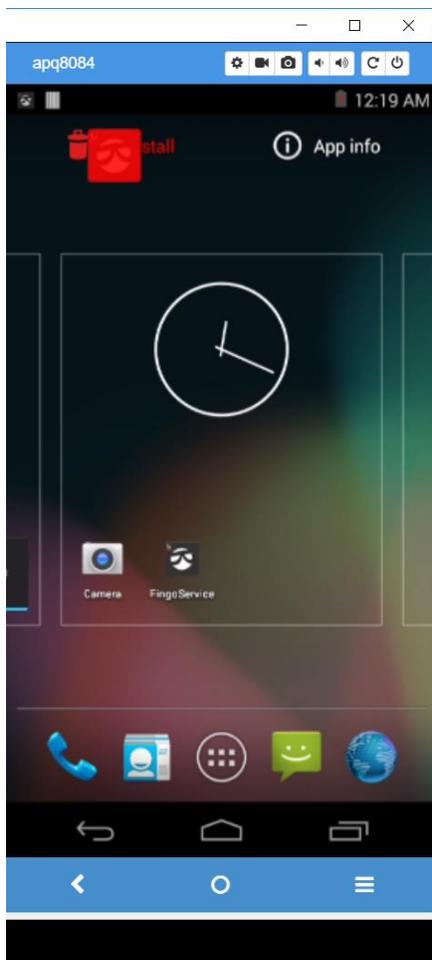
Every Empower has pre-installed factory FingoService, which uSens may periodically update to resolve known issues and expand functionality. To update your Empower, please follow these steps:

Step 1: Power on Empower

Step 2: Connect Empower with the PC via USB micro B cable

Step 3: Open Vysor on the PC

Step 4: Uninstall the Empower FingoService on the Vysor window by dragging FingoService logo to Uninstall box.



Step 5: Install the new FingoService on the Empower using "adb install"

Step 6: reboot Empower

Step 7: manually open FingoService on Empower, and make sure that FingoService shows status as "connected"

Step 8: reboot Empower again, and restart Windows FingoService if you want to connect Empower with FingoService on PC

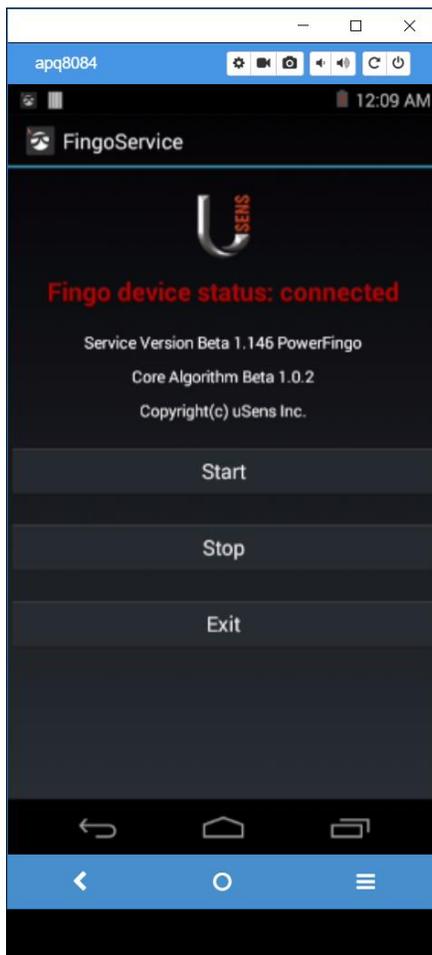
## 7. How to check the FingoService status on Empower

Step 1: Connect the USB cable between Empower and PC

Step 2: Open Vysor on the PC

Step 3: In the Vysor window, you should see the similar window of as the regular Android phone

Step 4: Open the FingoService by clicking the FingoService logo if the FingoService is not started automatically



## 8. Install/Update the FingoService on the phone

Step 1: Download the FingoService APK from Usens SDK or website

Step 2: Connect the phone to the PC via USB cable

Step 3: Download the FingoService from the PC to the phone

Step 4: Install the FingoService on the phone

#### 9. Install/Update the Usens Demo APP on the phone

Step 1: Download the Usens Demo APK from Usens SDK or website

Step 2: Connect the phone to the PC via USB cable

Step 3: Download the Usens Demo from the PC to the phone

Step 4: Install the Usens Demo APK on the phone

#### 10. How to check the FingoService status on phone

The FingoService is just like the regular Android app. Click the FingoService logo to open the FingoService to see status. The interface of the phone FingoService is the same as in Empower.

#### 11. Start sequence for Empower connected with the phone

Step 1: connect Empower and the phone using USB cable. Connect the USB end with "OTG" to the phone.

Step 2: power up Empower, and make sure the power on indicator is always solid green

Step 3: turn on the phone if not done yet

Step 4: open the FingoService on the phone (or FingoService will automatically start)

Step 5: wait around 2 minutes for the Empower FingoService fully start

Step 6: open the Usens Demo APP on the phone

Step 7: should observe the hand gestures on the phone Usens Demo APP

#### 12. FingoService does not automatically start on Empower

After re-installing the FingoService on Empower, FingoService might not automatically start once power on. In this case, you may manually open the FingoService to initialize.

Step 1: Connect the Empower with the PC via USB cable

Step 2: Open the Vysor on the PC

Step 2: Manually open FingoService on the Vysor window

Step 3: Wait until see the Empower FingoService shows "connected"

Step 4: Reboot Empower.

13. FingoService on the Empower shows "Fingo device status: Not connected" on the Vysor window

If reinstallation does not resolve the issue, please contact uSens for further support

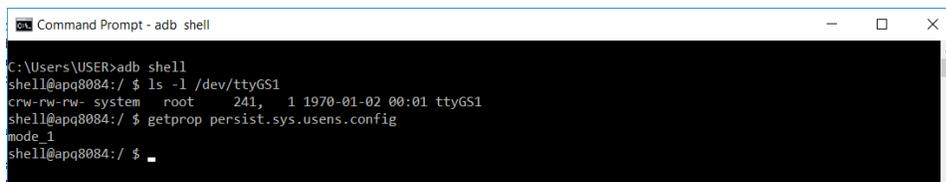
14. FingoService on the phone shows "Fingo device status: Not connected"

Step 1: check the USB cable connection between the Empower and the phone. The USB end with OTG mark should be connected to the phone.

Step 2: check the FingoService on the Empower by referring item 7. That FingoService should show "connected".

Step 3: check the Empower serial port configuration as "ls -l /dev/ttyGS1", which has the read/write permission for all users.

Step 4: Make sure the USB port on the Empower is configured to support the serial port, which should have the "mode\_1".



```
Command Prompt - adb shell
C:\Users\USER>adb shell
shell@apq8084:/ $ ls -l /dev/ttyGS1
crw-rw-rw- system root 241, 1 1970-01-02 00:01 ttyGS1
shell@apq8084:/ $ getprop persist.sys.usens.config
mode_1
shell@apq8084:/ $
```

15. Cannot see hand gestures on the phone

Step 1: check whether the Empower is correctly powered on. Power on indicator should be solid green.

Step 2: check whether the FingoService status on the Empower is "connected" by referring item 7

Step 3: check whether the FingoService status on the phone is "connected" by referring item 10

16. Cannot power off Empower using the ON/OFF switch

It might be not easy to use the ON/OFF switch to power off the Empower. You can use ADB commands to do that.

Step 1: connect the USB cable with Empower and the PC

Step 2: type "adb devices" to check the Empower is connected

Step 3: type "adb shell" to enter the Empower shell

Step 4: type "reboot -p" to shut down Empower

17. If FingoService displays “unfortunately FingoService has stopped”, please close (or force stop) and reopen.

18. Installing the FingoService on the PC

Step 1: Download the PC FingoService from Usens website

Step 2: Click the setup.exe to start the installation process

Step 3: Give the permission to the FingoService, and complete the installation process

19. Installing the Usens Demo software on the PC

Step 1: Download the Usens Demo software from Usens website

Step 2: Unzip the Demo ZIP file to the proper folder

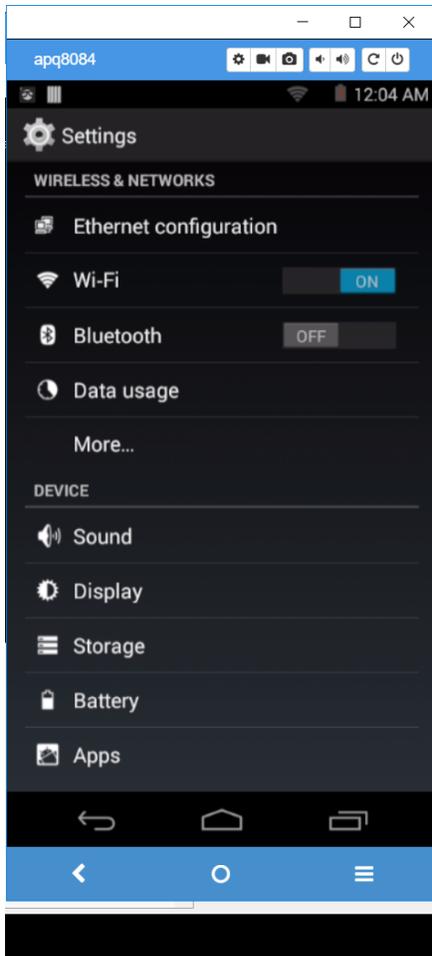
20. Configuring Wi-Fi on the Empower

Step 1: Connect the USB cable with Empower and the PC

Step 2: Open Vysor on the PC

Step 3: Click the Setting in the Vysor window

Step 4: Turn on WIFI



Step 5: Connect the same Wi-Fi router as the PC connects



Step 6: Check the Empower Wi-Fi IP address using adb command as following

```

shell@apq8084:/ #
shell@apq8084:/ # netcfg
dummy0 DOWN 0.0.0.0/0 0x00000082 16:54:a4:56:00:c0
p2p0 UP 0.0.0.0/0 0x00001003 ba:a7:95:b5:f5:ab
sit0 DOWN 0.0.0.0/0 0x00000080 00:00:00:00:00:00
lo UP 127.0.0.1/8 0x00000049 00:00:00:00:00:00
wlan0 UP 192.168.1.227/24 0x00001043 00:d0:ca:00:00:5c
shell@apq8084:/ #
shell@apq8084:/ #
shell@apq8084:/ #

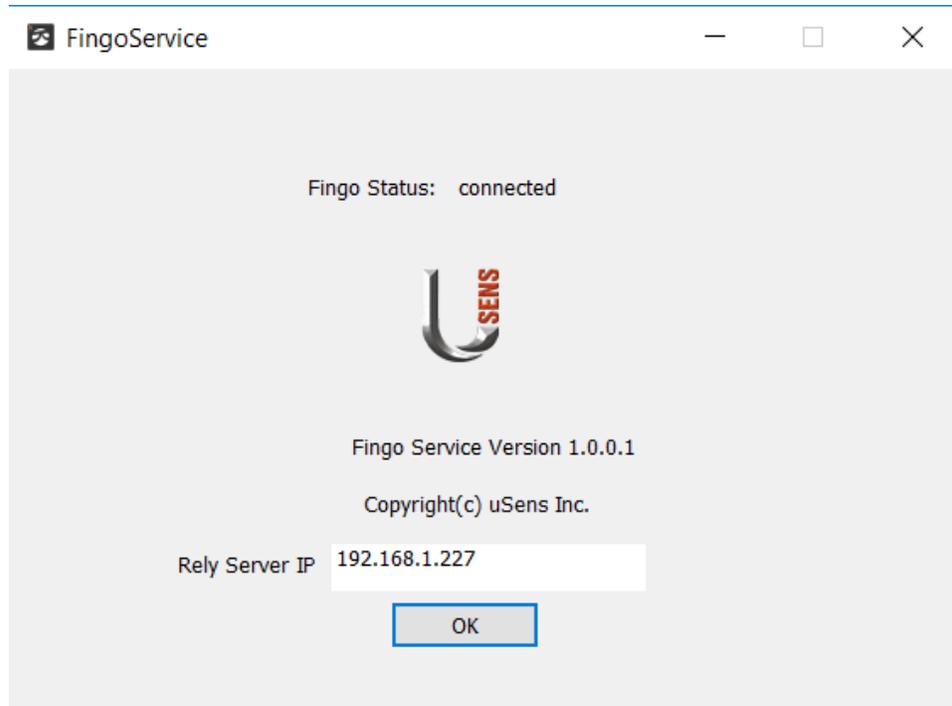
```

21. Connect FingoService on the PC to the FingoService on the Empower via Wi-Fi

Step 1: Configure Empower Wi-Fi as item 19

Step 2: Open the FingoService on the PC

Step 3: Input the correct Empower IP into the PC FingoService as



Step 4: the PC FingoService status should show "connected"

22. Start sequence for Empower connected with the PC

Step 1: Configure Empower Wi-Fi IP address by referring item 19

Step 2: Connect Empower with the phone by referring item 11

Step 3: Connect FingoService on the PC to the FingoService on the Empower via Wi-Fi by referring item 20

Step 4: Open the Demo software on the PC

Step 5: Should be able to see the hand gestures on the Demo software

Step 6: If you saw "not connected" on Windows FingoService, you need restart Windows FingoService

23. Cannot see the hand gestures on the USens Demo APP on the PC

Step 1: Check whether can see the hand gestures on the phone. If not, refer item 15

Step 2: Check whether the FingoService on the PC shows "connected"

Step 3: Check the Demo software version, which should match with the FingoService version on the PC

#### Limitations

1. In the Empower, doing "adb root" or "adb tcpip 5555" might cause Empower kernel crash
2. Once the FingoService on the Windows is disconnected from the FingoService on the Empower, the FingoService on the Windows could not automatically reconnect to the FingoService on the Empower. You have to close the FingoService on the Windows, and restart the FingoService on the Windows so that the FingoService on the Windows could connect to the FingoService on the Empower.