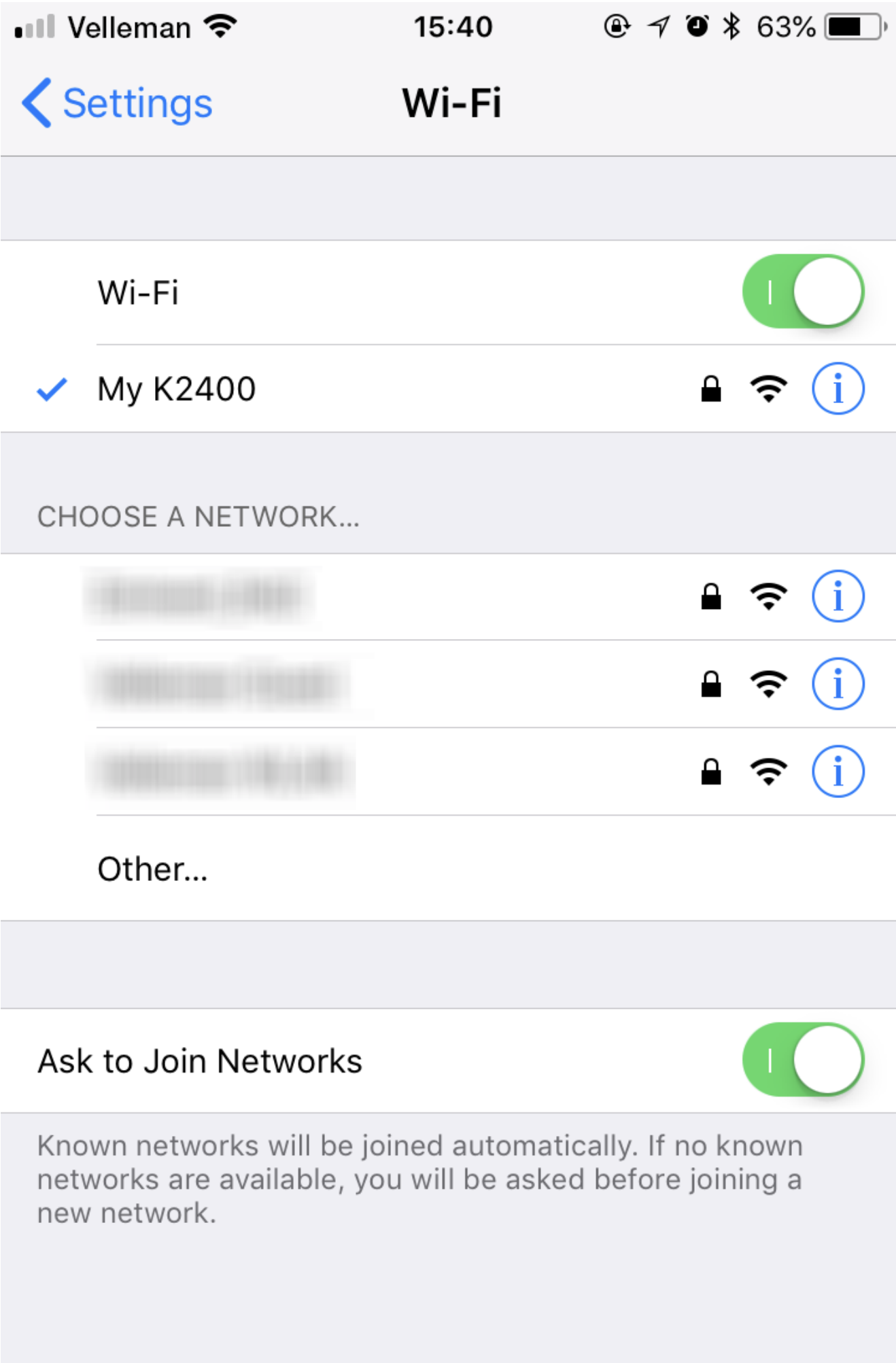# 3. User manual

First power-up and connecting the clock to your wireless network

When you have assembled the clock and you power it up for the first time, the watchface should show an orbiting blue circle. This means that the clock is in access point mode. In this mode, the clock will broadcast its own network with the name My K2400, the password is K2400password. You can either use a smartphone or a computer to connect to this network. For simplicity, we will show this process on an iOS device. But the principles are the same on a desktop PC or an Android phone.

⦁∎ll Velleman 🛜	15:40	⊙ ⌀ ⏱ ⚹ 63% ▪️

‹ Settings   **Wi-Fi**

Wi-Fi	🟢

✓ My K2400	🔒 🛜 ⓘ

CHOOSE A NETWORK...

	🔒 🛜 ⓘ
	🔒 🛜 ⓘ
	🔒 🛜 ⓘ

Other...

Ask to Join Networks	🟢

Known networks will be joined automatically. If no known networks are available, you will be asked before joining a new network.

Once connected, you will need to use the browser of your device to surf to this IP address:
192.168.0.1

◦ıll Velleman 🛜   **15:41**   **⊕ 🧭 ⏰ ✳ 63% ▭**

192.168.0.1   ↻
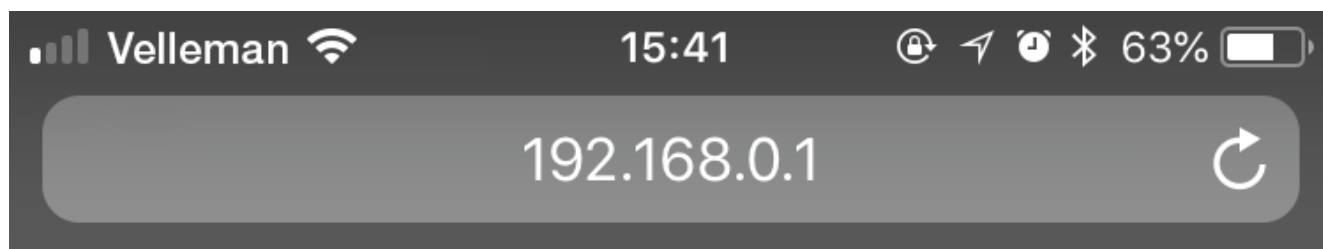
CONNECT TO WLAN

Enter SSID

Enter PASSWORD
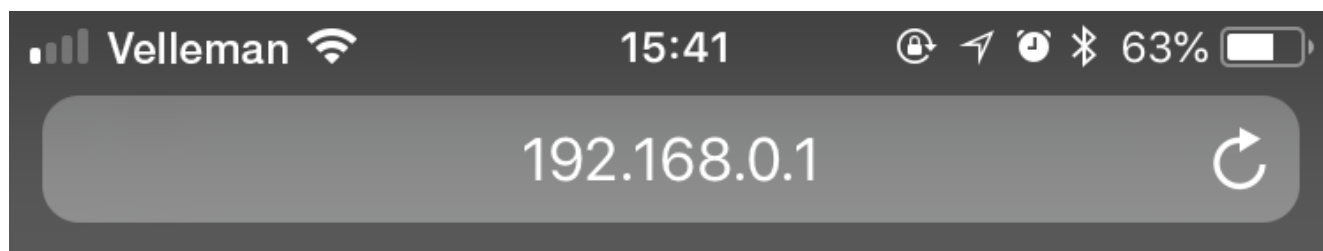
Name of your device:

K2400

SAVE

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The WLAN connect webpage should now load.

Here, you will need to enter the SSID (name) and password of the wireless network that you want the clock to connect with. Note: The network you want the clock to connect with should be connected to the internet (to synchronize the time) and it should be of the 2.4ghz variety. 5gHz networks will not be found.

Velleman 📶   15:41   🔒 ⌖ ⏰ ✳ 63% 🔋

192.168.0.1 ↻

CONNECT TO WLAN
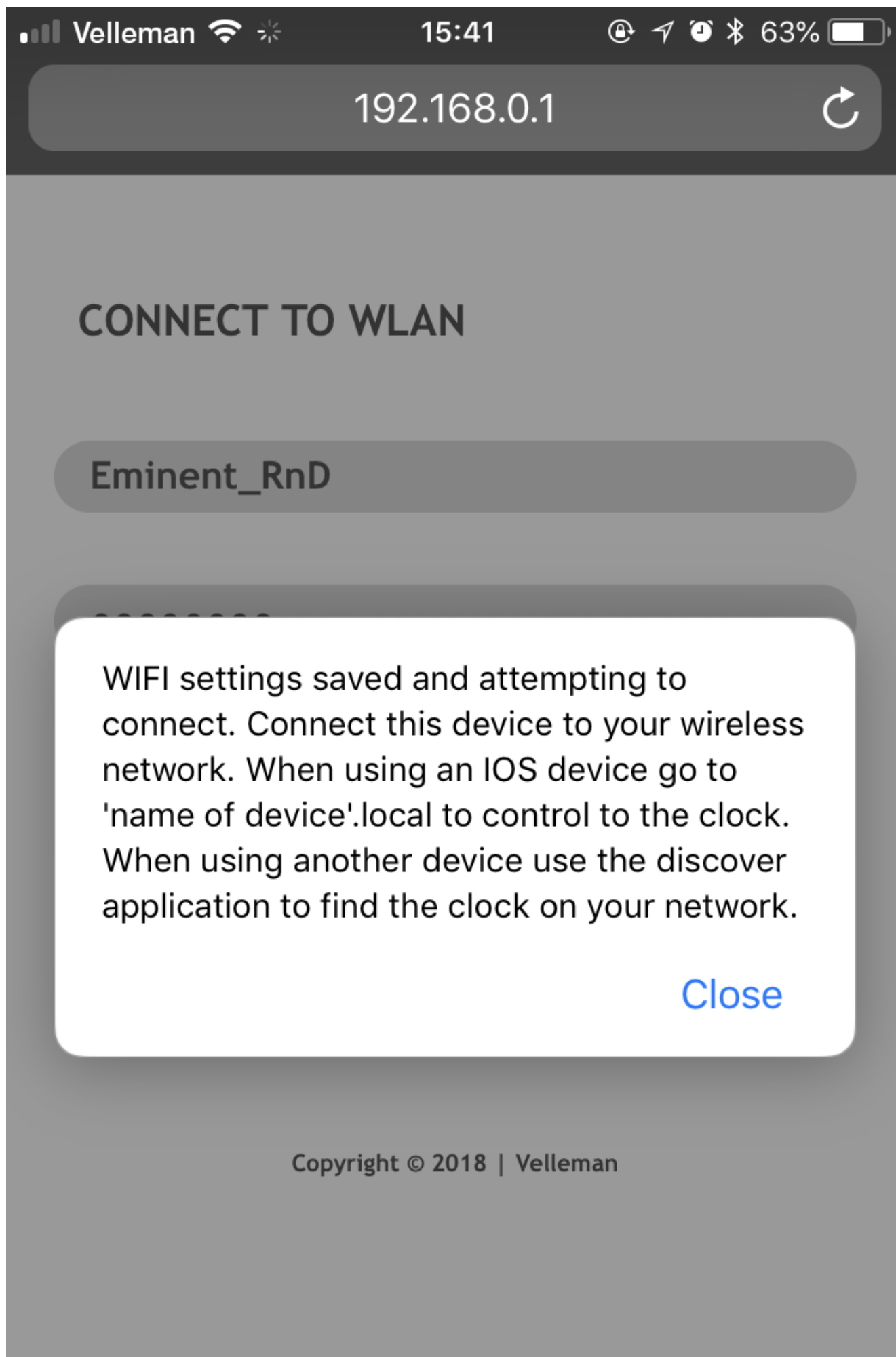
Eminent_RnD

●●●●●●●●

Name of your device:

K2400

SAVE

Copyright © 2018 | Velleman

When you press SAVE, the clock will store these values and try to connect to the wireless network you have told it to connect to. The watchface should now be a green orbiting circle indicating the network connection process (no longer in access point mode).
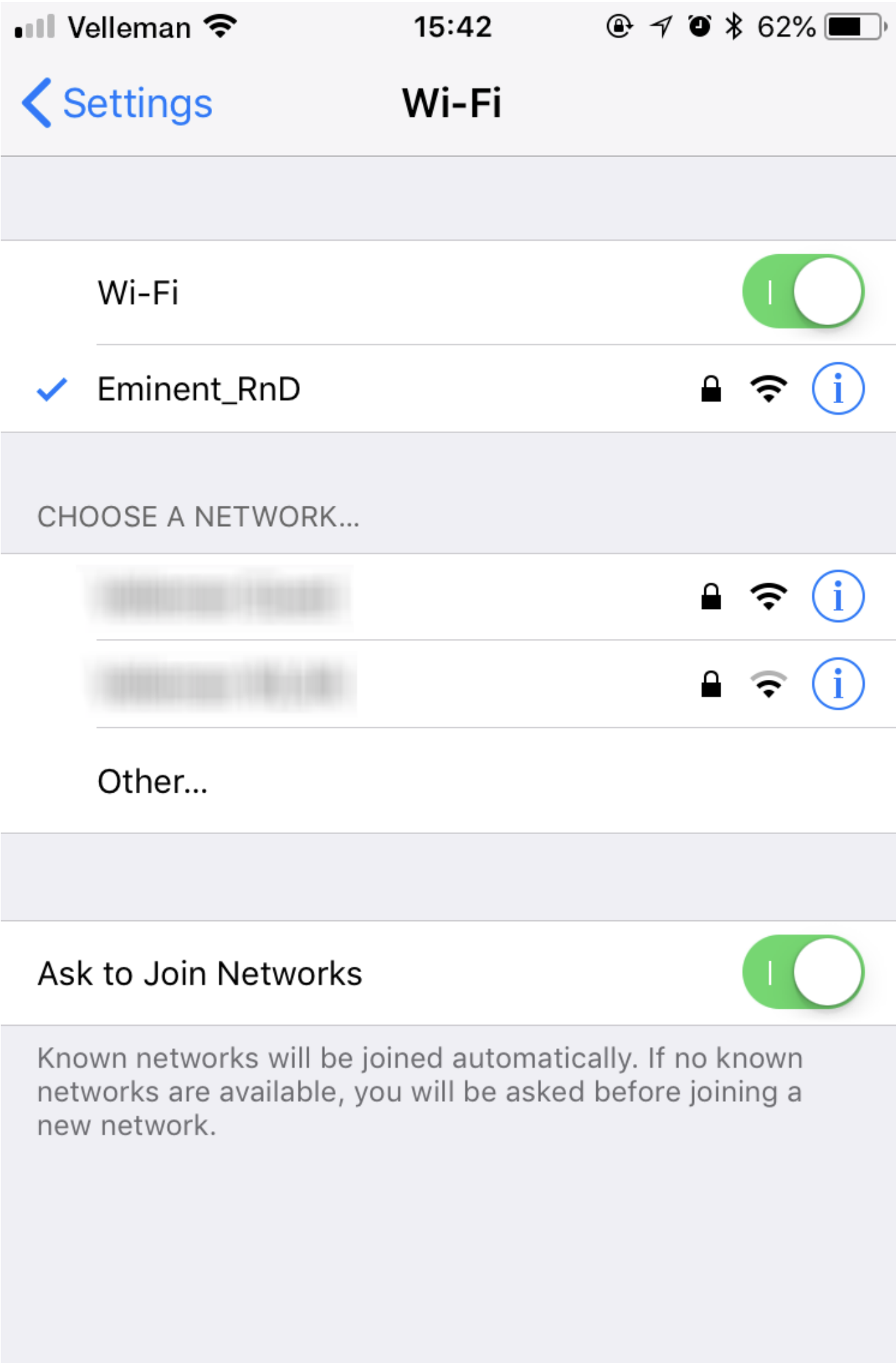
The webpage will also notify you with a prompt.

●ıll Velleman 🛜 ☀   15:41   🔄 ⌖ ⏰ ⁑ 63% ▭

192.168.0.1   ↻

CONNECT TO WLAN

Eminent_RnD

WIFI settings saved and attempting to connect. Connect this device to your wireless network. When using an IOS device go to 'name of device'.local to control to the clock. When using another device use the discover application to find the clock on your network.

Close

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When connected, the watchface will change to the first time display animation (more information on this later).

As the clock is now connected to your wireless network, it is no longer broadcasting its own wireless network. You will have to connect your smartphone or computer to your regular wireless network.

📶 Velleman 📶   15:42   🔒 ➤ ⏰ ✳ 62% 🔋

‹ Settings   **Wi-Fi**

Wi-Fi   🟢

✓ Eminent_RnD   🔒 📶 ⓘ

CHOOSE A NETWORK...

     🔒 📶 ⓘ

     🔒 📶 ⓘ

Other...

Ask to Join Networks   🟢

Known networks will be joined automatically. If no known networks are available, you will be asked before joining a new network.

Once your phone or computer is connected to your wireless network, you will need to discover on what IP address the clock is reachable on your network. This simple process is a little different on some devices:

Discovering the clock on an Android or Iphone smartphone:

Download the free app called: BrightDot Clock. You can download it for free from the [Google Play Store](#) or iTunes.

If you have an Android device, make sure the safety WiFi is turned off if you are having difficulties finding the clock.
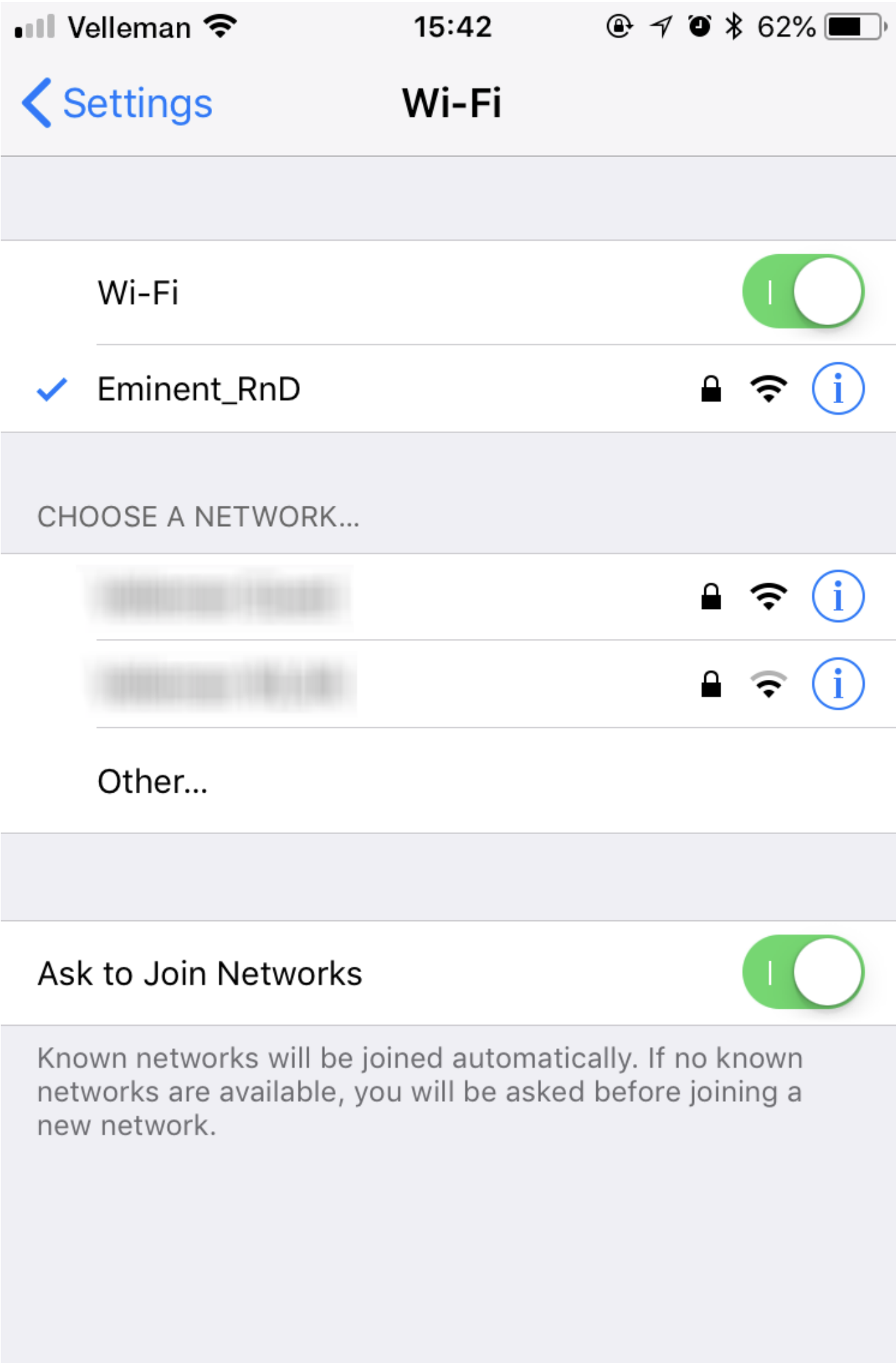
Tip: You can choose to put this webpage as an app on your home screen. This way it will load faster and you won't need to remember the URL.

Discovering the clock on a Mac:

Because an iPhone supports mDNS (a fancy protocol that makes discovery easy) you will only need to browse (in Safari) to the following address: **K2400.local** .

*Note: if you have changed the name of your clock, this address will also be different. For example if you have changed the name of your clock to **myclock,** the address wil be **myclock.local .***

Doing this will bring you right to the webpage of the clock where you can control it.

Discovering the clock on a PC:

1. Connect the clock to the same network as your PC.
2. Download the discover tool from here.
3. Open the software.
4. The clock should be visible, if not press **Discover Devices**.
5. Click on the row and your browser will open and browse to the clock

Controlling the clock via the built-in webpage

Now you can load the webpage of the clock so you can control it. Feel free to browse the webpage and try things out.

We will explain every function separately below.

*Note: You may have noticed the clock is not displaying the correct time at the moment. This is because the clock does not know in what time zone you live and whether or not it has to correct for daylight savings time. An explanation on how to change these parameters can be found under **Adjusting the time (DST, GMT).***

Controlling the Brightness

The main slider to control the brightness of the clock can be found on the COLOR SETTINGS tab. This slider is a global slider. This means that it will affect every color that has been set on the COLOR SETTINGS tab.

*Note: the auto dim feature will restrict the maximum value that the brightness slider can have when activated! More about this in the **Setting the auto dimming feature** part.*

Note: due to the way the LEDs work on the clock animations on low brightness may look slightly different and have a less fluent dimming gradient.

Display modes

The clock has 9 display modes. These can be selected with the DISPLAY MODE slider. Each of these modes controls the way the hour, minute and seconds are displayed on the watchface.

Changing colors

By default, the hour indication is RED, the minute indication is GREEN and the second indication is BLUE.

You can change these colors by using the sliders to mix RGB values.

Adding effects

The clock has several effects that can be mixed in with the display modes:

- Second pendulum: a pendulum-like effect that covers the entire clock in clockwise and anti-clockwise rotation.
- 5 min indicators: makes it possible to light up the LEDs of each 5 min mark (in any color/intensity desired) to make it easier to read the time.
- 15 min indicators: makes it possible to light up the LEDs of each 15 min mark (in any color/intensity desired) to make it easier to read the time.
- Inverting of all the colors: inverts all the colors of the clock at one. This can have a very cool effect but use with caution as all sliders will work in the opposite way

Saving, restoring and resetting colors

Once you have found a display mode you like, chosen some effects and the colors are set to your preference you can save this configuration. So that when there is a power cut the clock will return to your saved settings when the power comes back on.

Just press on the save button to save the current settings.

When you have saved your settings and have changed colors afterward you can always return to the saved settings by pressing the load button.

If you want to clear your saved settings and return to the default state just press the reset button.

Adjusting the time (DST, GMT)

As the clock sync the time with an NTP server (time server on the internet) it does not know in which time zone (GMT) you are and if it has to calculate a daylight savings time offset (DST).

These variables can be entered in under the TIME SETTINGS tab. The GMT and DST value has to be entered as hours.

For example, if you live in Belgium and it's summer then you have to enter 1 for GMT as the time zone there is +1 and 1 for DST as there is a 1 hour offset in the summer there.

Press save when you have done this and the clock should update the time automatically. If the time is correct after adding these parameters you know you entered the correct values.

Changing the NTP server

By default the clock uses the google NTP time server. But there are many more. If you want to change this just enter the URL of the new server and press save.

When you press reset it will change the URL back to the default one.

Setting the alarm

The alarm of the clock is a red ring that pulses every second. This lasts for 1 minute. You can enter the time when this alarm should occur on the TIME SETTINGS tab.

This alarm will work daily when it is activated.

Setting the auto dimming feature

With this feature, It's possible to set an interval between 2 hours where the clock has a lower brightness level (or even 0 brightness) than normal. You can use this to dim the clock during the night for example. It works very simply, select a brightness level and enter a start hour and an end hour. And flick the switch to the on position. When you press save these parameters will be saved (these parameters will persist after a power cut) and the clock will dim to the pre-set value between the start - and end hour.

Note: The brightness slider of the auto dim feature overrules the brightness slider on the COLOR SETTINGS page. For example: if the brightness slider on the COLOR SETTINGS page is at 100% and the brightness slider of the auto dim feature is at 30%, then when the auto dim feature is active the range of the brightness slider on the COLOR settings page will be mapped between 0 and 30% of full brightness. When you change the slider on the COLOR SETTINGS page to for example 50%, it will be an effective 15% brightness on the clock when auto dim is active.

Changing the wireless network

To change the wireless network your clock connects to you will need to fill in the new SSID, password and name of the clock on the WLAN SETTING page. When pressed save the clock will disconnect the current network and try to reconnect to the new network.

When pressing reset the clock will erase the wlan credentials that are stored and restart the clock in access point mode as it no longer knows which network to connect to.

Resetting the clock

If you want to reset the cock from the webpage you can do so from the DEVICE SETTINGS page. Here you have 2 options: **restarting** the clock and **resetting** the clock.

Restarting does not clear any saved settings, it will, however, clear any settings that were not saved.

Resetting will clear all saved settings and revert them to default values. Then it will restart the clock. You will need to reconnect the clock to your network after this.

Article Number: 1157
Posted: Tue, Jan 15, 2019 10:07 AM
Last Updated: Mon, Feb 17, 2020 11:48 AM

Online URL: https://manuals.whadda.com/article.php?id=1157