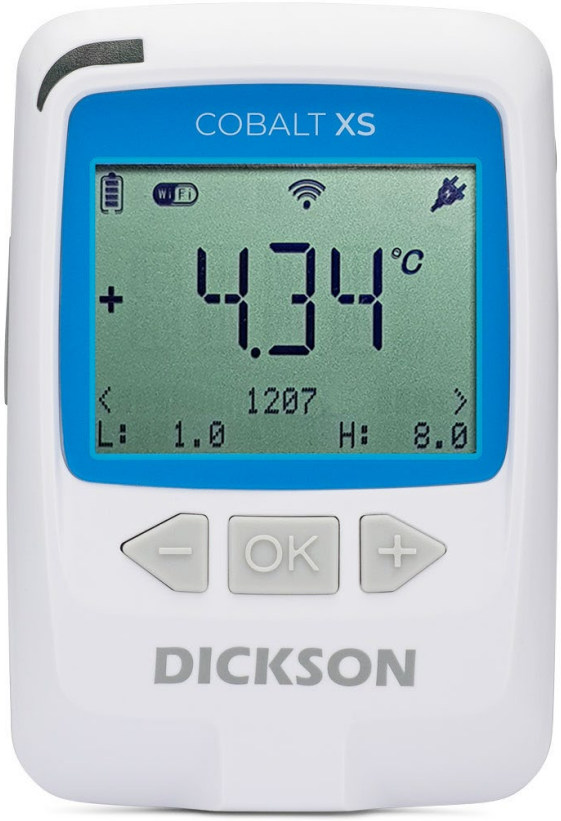
Quick-start guide

Cobalt XS™ Wi-Fi

Wi-Fi enabled data logger for DicksonOne



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Safety instructions

The latest safety instructions document is available for download from the Dickson website. Flash this QR code to access the document.

1 Introduction

This Quick-start Guide describes how to get the Cobalt XS Wi-Fi data logger up and running with your DicksonOne monitoring platform.

Process overview: Before adding a Cobalt XS Wi-Fi data logger to your DicksonOne account, you must first set up Wi-Fi on the device and connect it to your Wi-Fi network. You can then register the data logger in DicksonOne to view data online, configure alarms, and much more.

Complete documentation is available on our website: https://dicksondata.com/quick-start

1.1 What's in the box

- Cobalt XS Wi-Fi data logger with two 3.6V Lithium batteries preinstalled (non-rechargeable)
- Mounting kit with wall-mount plate and magnet, adhesive strips, wall anchors, and cable ties

1.2 Step 1: Activate power on the data logger

The batteries are pre-installed in your Cobalt XS Wi-Fi and are protected from electric contact by a pull-tab. To activate the data logger:

1. Remove the cradle from the back of the data logger by sliding it downwards (1).

Figure 1 – Remove the cradle and pull out the plastic tab to activate batteries

2. Pull out the clear plastic tab (2). This will activate the batteries and turn on the data logger. You can also use a USB-C power cable and wall-plug adapter as the main power source to preserve battery life.

1.3 Using Cobalt XS Wi-Fi navigation buttons

The Cobalt XS Wi-Fi interface is controlled by four buttons that allow you to perform various actions and manage various device settings.

- Navigate through the menu using the three buttons on the front of the data logger.
  - > Press the OK button to activate the display, then press and hold OK for 3 seconds to enter the menu.
  - > Use the left and right buttons (◁ ▷) to move through the menu items on the screen, with a short press on the central OK button to select the current item.
  - > To return to the main screen, you may either press and hold the OK button for one second to back out, or navigate to the **Back** option and press OK. Otherwise, the screen turns off automatically or returns to the home screen after one minute of inactivity, depending on your settings.
- Turn the screen off/on using the round button on the side of the data logger.
  - > Press and hold the side button for about 3 seconds to turn the screen off to save battery power. Press the side button or any of the other buttons to turn the screen back on.

    The default power saving setting turns the screen off after 1 minute of inactivity.

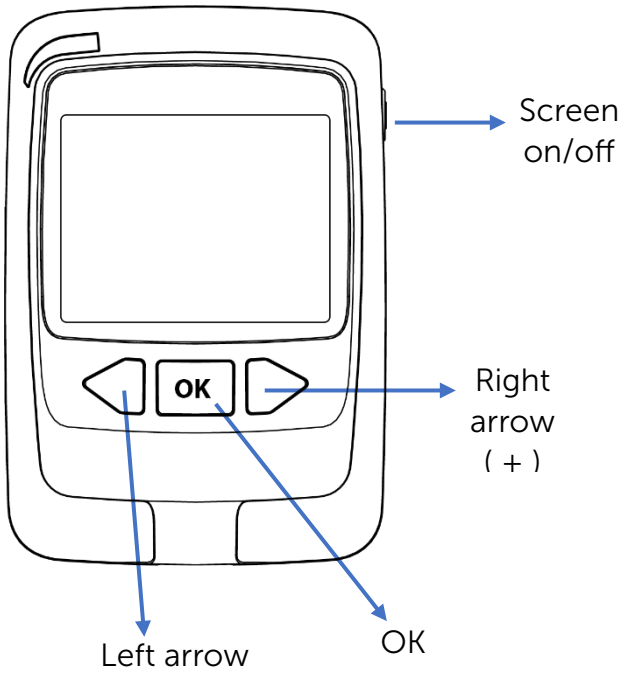

Figure 2 – Cobalt XS Wi-Fi buttons

1.4 Choosing the display language

1. Press and hold OK for 3 seconds to enter the menu.
1. Press ◁ or ▷ until you reach **Settings**, then press OK
2. Press ▷ until you reach **Language**, then press OK
3. Press the left or right button (◁ or ▷) until the desired language is displayed (English, French, Spanish, or German).
4. Press OK to confirm

1.5 Entering numbers

The buttons on the data logger enable you to manually enter numbers when prompted. In particular, you will need to do this to enter your PIN code to update firmware manually or change Wi-Fi settings on a data logger that has already communicated with DicksonOne.

> The PIN code is configured in your DicksonOne user profile.

How to enter numbers using the buttons:

1. When you need to enter a number, the interface looks like this (using the example of PIN code entry) – notice the triangular cursor beneath the first digit (1) in the lower left corner of the screen.

2. Press ◁ or ▷ to move the cursor left or right (2) from one digit to the next.

3. Do a short press on OK to change the number above the cursor. Each press increases the number.
4. Stop when the number is correct, then press ▷ to move on to the next number.
5. When the number is complete, press ▷ to move the cursor to **OK** and then press the OK button to confirm. If you select **Back**, the previous screen is displayed.

2 Step 2: Set up Wi-Fi on the data logger

The next step is to configure the data logger to connect to your Wi-Fi network. It will then be able to communicate with your DicksonOne monitoring platform and begin uploading data.

To set up your data logger's Wi-Fi:

1. Connect the data logger to your computer using a USB-C cable. When you do this, the device is mounted as a USB drive, where you will find an HTML configuration form to open with your web browser. We recommend Microsoft Edge or Google Chrome for best compatibility.

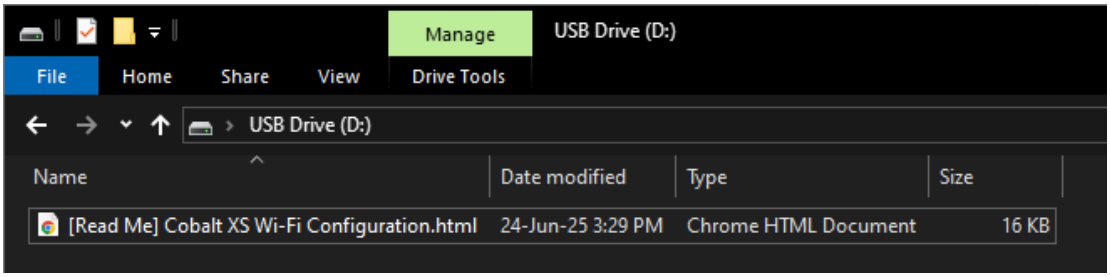

Figure 3 – The data logger opens as a USB drive on your computer

2. Double-click to use your default browser to open the file "[Read Me] Cobalt XS Wi-Fi Configuration.html", which looks like this:

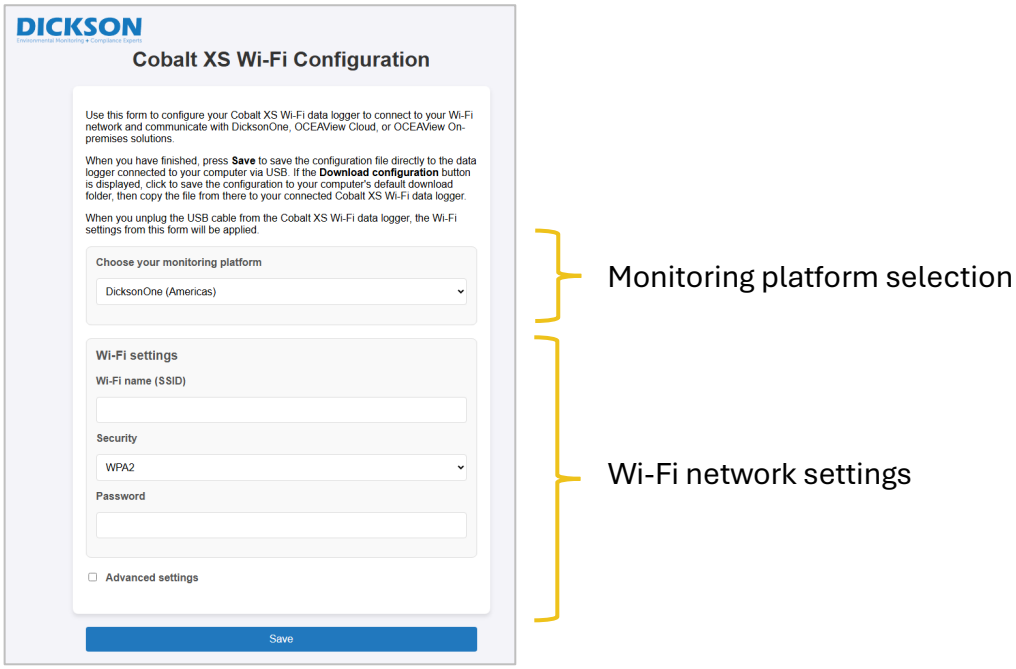

Figure 4 – Wi-Fi configuration page overview (details provided below)

3. Click on the pull-down menu under **Choose your monitoring platform** (1) to choose the option that corresponds to your situation:

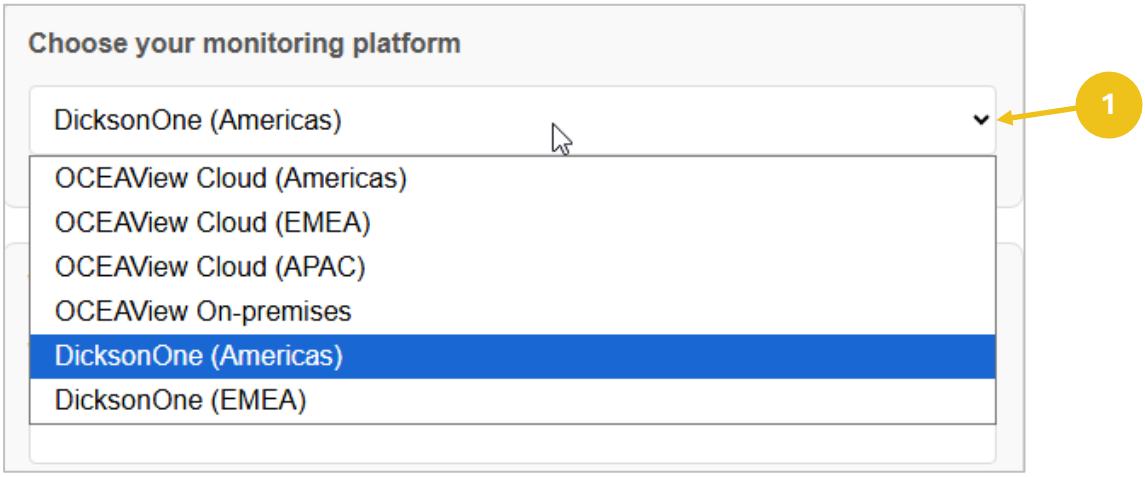

Figure 5 – Choose your DicksonOne platform

4. Fill in the fields for Wi-Fi settings in your network. The IP address will be obtained from your network's DHCP server:

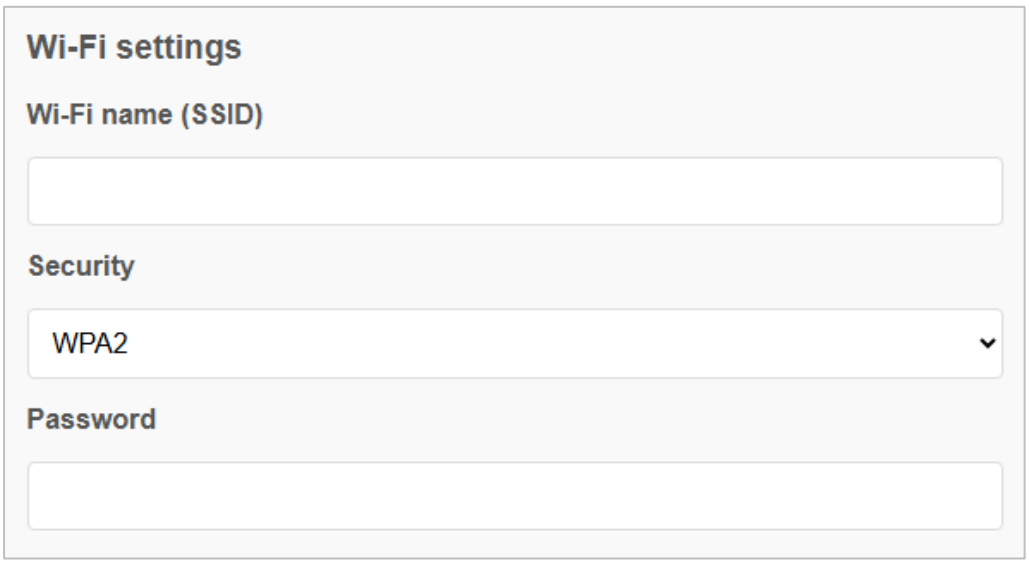

Figure 6 – Enter Wi-Fi connection details

Wi-Fi name (SSID) Enter the exact name of your wireless network. The text here must be the network's exact name. This field is limited to 63 characters maximum.

Security Choose the option that corresponds to your network's security protocol: Open, WPA2, WPA2-SHA256, or WPA3.

Password Enter the password required to join the wireless network. If you select "Open" security, you do not need to enter a password.

Advanced settings There is no need to use this option with DicksonOne.

5. After filling in the form, press **Save** at the bottom of the screen to save the configuration file (network_config.txt) directly to the data logger.

   If a **Download configuration** button is displayed, click to download and save the configuration file to your computer's default download folder (and then copy it to the data logger) or save it directly to the connected Cobalt XS Wi-Fi data logger.

   Hint: If you have several data loggers to set up, you can save the file locally first, then copy it to each of the data loggers to save time.

6. To complete the process, unplug the USB-C cable from the data logger or use your computer's function to safely remove hardware and eject media.

   The device will detect the **network_config.txt** file and prompt you to apply the change. If the data logger has already been connected to your DicksonOne platform, you will be prompted to enter your PIN code (described above in *Entering numbers, p. 6*).

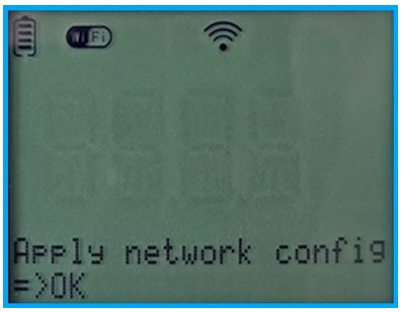

Figure 7 – Confirm that you want to apply the Wi-Fi network configuration

7. Press the OK button to continue if you want to apply your settings. If you do not take any action at this point, the data logger will remove the configuration file after one minute and nothing will be changed.

   After a confirmation message, the Wi-Fi icon on the screen indicates that the data logger is attempting to connect to the network.

8. If the Wi-Fi connection is successful, the data logger will connect to your DicksonOne monitoring platform and display a registration code within about one minute (see Step 2). If a sensor is connected to the data logger, reading begins automatically at this point.

Figure 8 – After connection is established, the registration code and current sensor reading are displayed

If the data logger does not display a registration code, it might be because the Wi-Fi connection was not successful. See the next section *How to test the Wi-Fi connection* for more information.

Hint: Once connection is successful, the registration code will remain on the display until the data logger is fully registered in your DicksonOne account (as described below in *Step 3: Register the data logger on DicksonOne*). Data will only be synchronized with DicksonOne after the registration process is complete.

If you need the registration code in the future, it is accessible with a long press on [OK] from the home screen to enter the menu ➔ [OK] to select **Information** ➔ left button (◁) to reach **Registration code.**

2.1 How to test the Wi-Fi connection

You can test Wi-Fi connectivity at any time as follows:

1. Press and hold OK to enter the menu.
2. Press the left or right button (or) until **Test** is displayed.
3. Press OK to run the test.

Figure 9 – Successful Wi-Fi connectivity test

If the connection is successful, you may proceed with data logger configuration in DicksonOne as soon as the registration code is displayed.

If the connection is not successful, please check your Wi-Fi settings and try again. Error messages in case of failure are provided in the next section.

2.2 Troubleshooting the Wi-Fi connection

The Wi-Fi connection test (described above) runs through several phases, enabling you to identify the source of any problems you might encounter. Here are the possible errors and a few suggestions for troubleshooting your Wi-Fi connection.

Error connecting to SSID	This error can occur if the password or SSID are incorrect (check your text carefully), or if the data logger is not able to access the router (e.g. too far away, router turned off...)
Server address resolution error	The router could not access the monitoring platform. Make sure there are no firewall conflicts.

Note: After saving Wi-Fi settings on your data logger, you may need to run the test twice for it to succeed.

3 Step 3: Register the data logger on DicksonOne

1. Log in to your DicksonOne account
2. Click on **+Add Hardware** in the upper right-hand side of the overview page.
3. Click on **Add a DicksonOne logger**.
4. Enter a name and the registration code, and select a location using the pull-down menu.

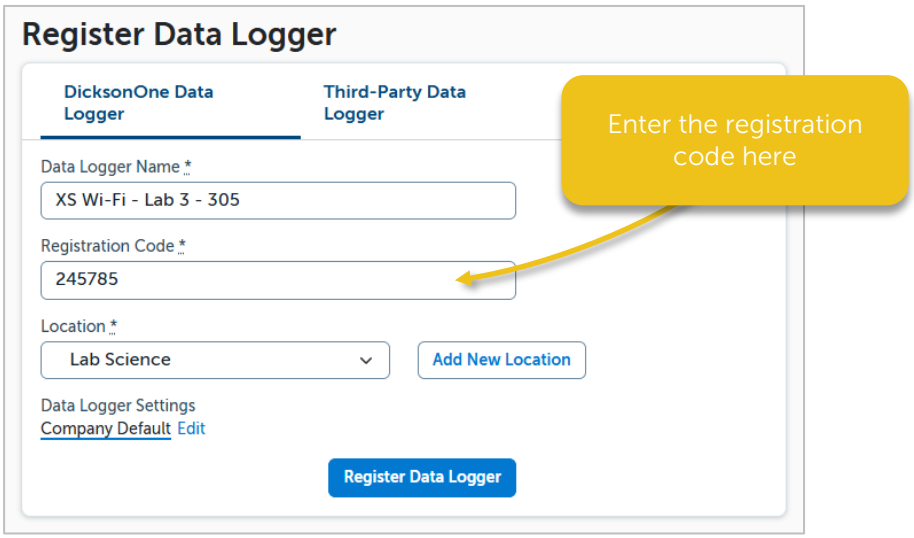

Figure 10 – Enter registration code and other information to register the data logger

5. Click on **Register Data Logger** to add the logger to your platform as shown below.

Figure 11 – Data logger registration in DicksonOne is confirmed

6. You can click on the data logger name to access the device and perform additional configuration tasks as needed, such as defining alarm limits, notification policies, and more, using the DicksonOne solution.

The data logger is displayed in the dashboard as shown below. Data will start to flow into the system automatically within a few minutes.

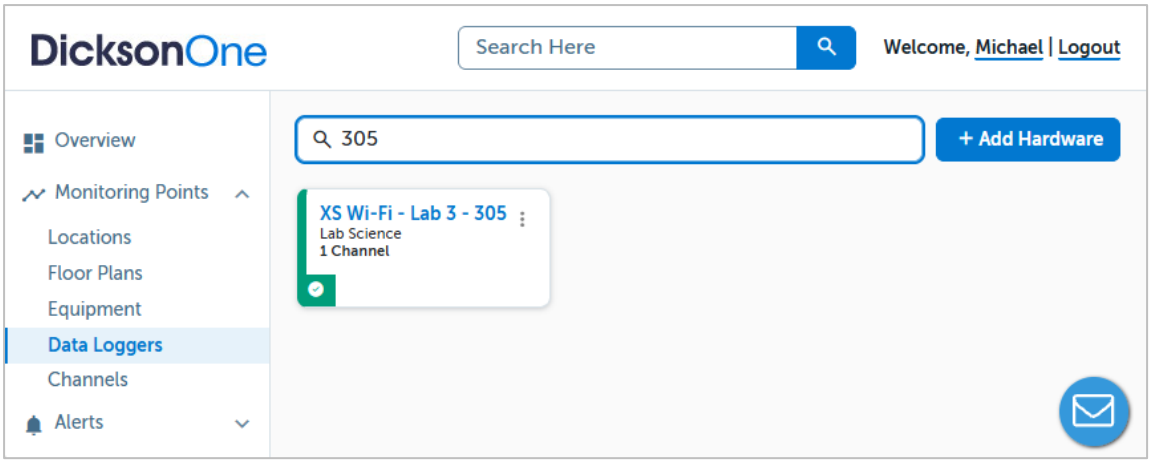

Figure 12 – Access the data logger via the Monitoring Points menu in DicksonOne

We encourage you to read the complete DicksonOne user documentation to get the most out of your Dickson products.

4 Using the Dickson triple $C0_2$ – T° – RH Smart-Sensor

The Cobalt XS Wi-Fi data logger supports up to two active sensor channels simultaneously. Therefore, if you want to use a triple sensor, such as Dickson's CO_2 – Temperature – Relative Humidity Smart-Sensor, you must choose which two sensors to use.

> When this triple sensor is plugged into the data logger, CO_2 and temperature channels are selected by default.

Follow these steps to configure the sensor channels directly on the Cobalt XS Wi-Fi:

1. Press and hold OK to enter the menu.
2. Press the left or right button (◁ or ▷) until **Active logging** is displayed, then press OK.
3. Press OK to select **Configure channels**. Here you can assign any one of the three sensors to the first channel (Channel 0):

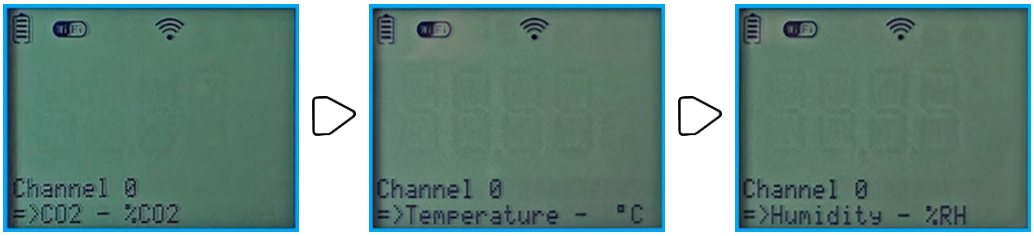

Figure 13 – Press arrow to cycle through the three sensors

4. Press OK to select the sensor you want on Channel 0.
5. Then, channel 1 is displayed, giving you the option to choose one of the two remaining sensors. Press OK to select the sensor you want on Channel 1.

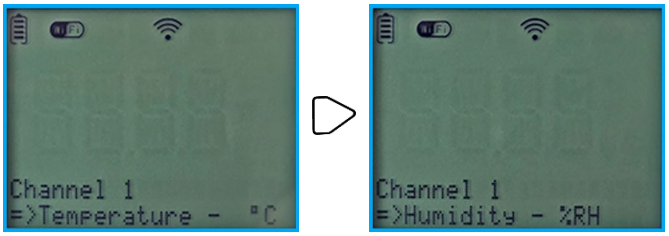

Figure 14 – Press arrow to cycle through the two remaining sensors

6. Any changes you make on the data logger will be taken into account automatically on DicksonOne, generally within 1 – 2 minutes.

General notes

- **Firmware update**

  These settings are preserved if firmware is updated.

- **Sensor swap**

  If you swap this sensor for an identical sensor (for example, at recalibration time), the channel settings are unchanged, and data logging continues normally. The new sensor is taken into account automatically by DicksonOne.

- **Device reboot**

  If the device is rebooted (for example, in case of battery swap or power off), the channel settings are unchanged, and logging will resume after about 1 – 2 minutes.

- **Replacement with a different sensor**

  The channel selection settings described in this section only apply to Dickson's triple CO_2 – Temperature – Relative Humidity sensor. If you replace this sensor with a dual Temperature – Relative Humidity sensor, the two available channels on Cobalt XS Wi-Fi will be assigned automatically.

5 Technical note on updating data logger firmware

New firmware versions for your Cobalt XS Wi-Fi data logger may be released from time to time. You may choose to install updates over-the-air (OTA) via DicksonOne or by using a USB-C cable connected to your computer.

5.1 Method 1: Updating firmware via DicksonOne

5.1.1 Updating one data logger via DicksonOne

You can update firmware directly using DicksonOne in one of two ways, depending on your company default settings, either:

- Do not update automatically
- Update automatically

You can check the settings as follows:

1. Locate your data logger under **Monitoring Points ➔ Data Loggers**
2. Select **Settings ➔ Firmware** (1)

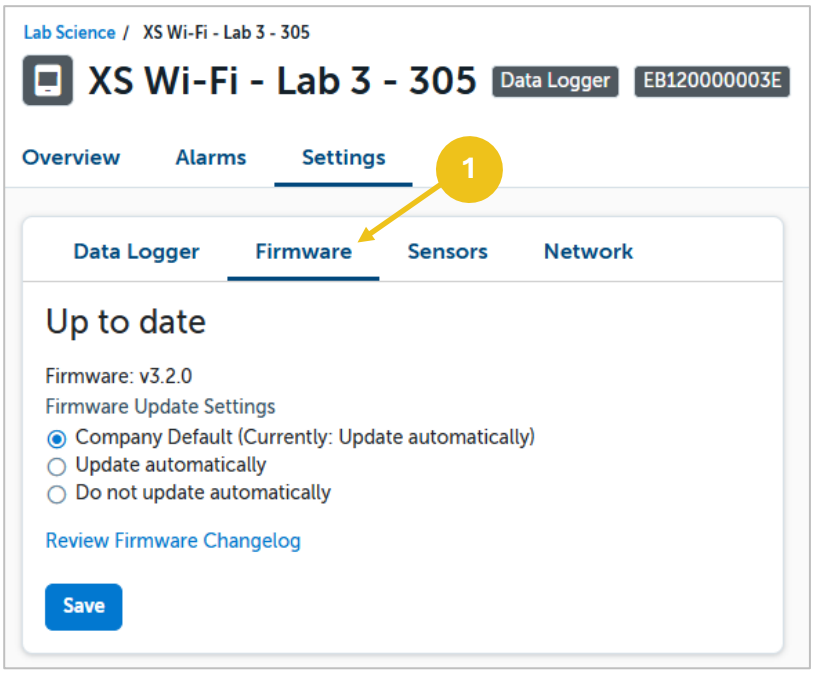

Figure 15 – Firmware update settings in DicksonOne

Update automatically

If the company's default setting is set to update automatically, firmware updates are installed on data loggers without requiring any user intervention. The system checks for updates at each data transfer interval and begins the update upon the following transfer.

Do not update automatically

If updates are not automatic, you must press the **Update firmware** button for your data logger to initiate the process when new firmware is available, as shown below. The update will begin at the time of the next scheduled data transfer.

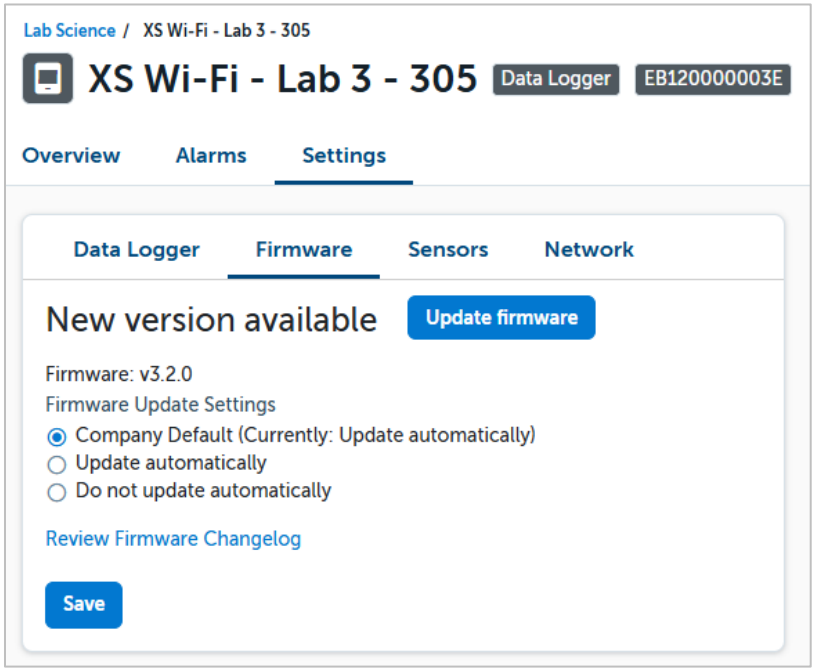

Figure 16 – Manual update for one data logger

5.1.2 Updating several data loggers via DicksonOne

You can update firmware on several data loggers in one operation as follows:

1. In the left-hand menu, select **Manage ➔ Data Loggers** (1)
2. Click to select one or more data loggers in the list. When you do this, a pop-up is displayed as shown here.

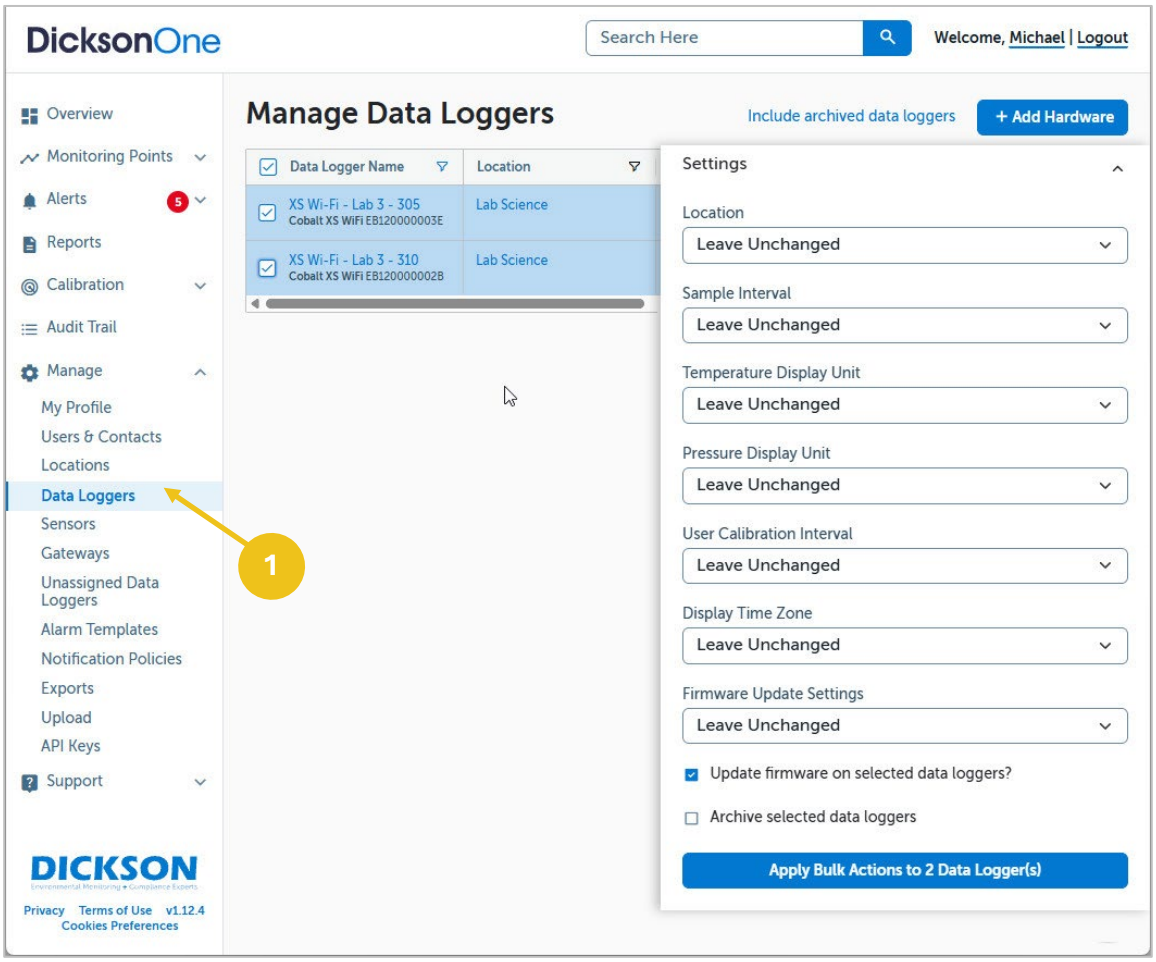

Figure 17 – Manual update for multiple data loggers

3. Click to select **Update firmware on selected data loggers?**
4. Click on **Apply Bulk Actions to # Data Logger(s)**

   If a firmware update is available, it will be installed automatically on the selected data loggers over the next data transfer cycles. If the firmware is already up to date, the data logger(s) will continue communicating normally.

> One thing to keep in mind is that selecting "**Update firmware on selected data loggers?**" initiates a one-time firmware update. The selected loggers will not update automatically when future firmware versions are released.

To configure the loggers to update automatically whenever a new firmware version becomes available, select the **Update Automatically** option from the **Firmware Update Settings** dropdown menu in the pop-up.

5.2 Method 2: Updating device firmware via USB-C cable

If your data logger has already communicated via Wi-Fi with the Dickson monitoring platform, your existing configuration is preserved when updating the firmware as described here. Please only use firmware files provided by Dickson.

To update the firmware via USB-C cable:

1. Plug the data logger to your computer using a USB-C cable. This should mount the data logger as a USB drive that you can access with your file browser.
2. Download the . tar file from DicksonOne, under **Support ➔ Change Logs**
3. Copy the .tar file to the data logger mounted as a USB drive.
4. After the file is completely copied to the data logger, unplug the USB-C cable from the data logger.
    - If the data logger has already communicated with your monitoring platform, you must enter your PIN code to continue.
    - If the data logger has never communicated with your monitoring platform, you will not be prompted to enter your PIN code.
    - If you use the Windows function “Safely remove hardware and Eject Media”, don’t forget to also detach the cable from the data logger.

5. This message is shown on the display: “**New firmware detected. Update?**”

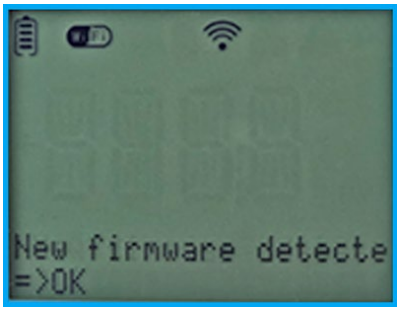

Figure 18 – Confirm firmware update

6. Press the OK button if you want to apply the update.
7. The display will show “**Updating…**” for up to about two minutes. The data logger then reboots and resumes operation.
8. To see the firmware version on your data logger, press and hold OK to enter the menu, then press OK again on **Information** and then the right button (▷).

5.3 Good to know

- It may take the duration of several transfer intervals to complete the firmware update via DicksonOne.
- The data logger LED blinks blue and green while the new firmware is being installed (less than 2 minutes).
- If automatic updates are enabled, and the data logger is currently in an alarm state (excursion, low battery, or technical issue), the update will be performed once the data logger has returned to its regular operating state.
- Firmware updates are tracked in the system’s Audit Trail.

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