

ELEMENTAL MACHINES EB1 Element-B Hydrocheck Water Quality Sensor Installation Guide

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ELEMENTAL MACHINES EB1 Element-B Hydrocheck Water Quality Sensor

Product Information

The Element-B Installation Guide provides instructions for installing the Element-B connection cable for the Hydrocheck 414R Series Water Quality Sensor. The guide is applicable to models EB1 and EB2. The package contents include the Element-B Connection Cable. Safety information should be reviewed and followed to prevent any accidents or hazards.

Product Usage Instructions

Receiving the Shipment

1. Upon receiving the shipment, check for an email regarding dashboard account verification if it is your first time setting up the Elemental Machines system. Save this email for future reference.
2. When the devices are shipped, they will be added to your Elemental Insights Dashboard™ with default names. Upon logging in for the first time, you will see all your devices with a 'disconnected' status.
3. Carefully unpack the devices from the packaging. If any contents appear damaged, send a picture to help@elementalmachines.com for assistance.
4. If you have ordered multiple Element-B's, ensure that the Element-B being used is configured as Normally Closed (NC). This can be verified by checking the device label, the dashboard under 'Machine Model', or the packing list sent with your shipment.

Setting Up Elemental Machines Gateway

- Ensure that an Elemental Machines Gateway is set up near the Element-B. The Gateway type may vary depending on your location and application.
- If you have a tablet Gateway, refer to Appendix 1: Gateway Setup for brief setup instructions. If you have a Gateway Model GW2 or GW3, follow the setup instructions in your Gateway User Manual.
- Make sure the Gateway is within wireless connection range, usually up to 30 meters but it can vary depending on the lab's layout.

Attaching Connection Cable to Asset

6. Disconnect power to the Hydrocheck meter.
7. Remove the back cover of the enclosure by unscrewing the four (4) captive screws.
8. Locate Terminal Block 1 (TB1) towards the center of the opened device.
9. Slightly loosen the screws for the Normally Closed (NC) and Common (COM) slots on TB1.
10. Route the wires from the thermocouple cable through the port nipple on the bottom of the Hydrocheck 414R Series Water Quality Sensor.

Applicable Hydrocheck Water Quality Sensor Models

- 414R Series

Package Contents

- Element-B
- Connection Cable

Safety Information

Review and abide by the safety information found in the Element-B and Hydrocheck Water Quality Sensor user manuals. Tidy connection cable to prevent tripping hazards.

Installation Instructions

Receiving the Shipment

1. If this is your first time setting up the Elemental Machines system, you will receive an email for your dashboard account verification. Save this email for when the devices arrive.
2. When devices are shipped, they will be added to your Elemental Insights Dashboard™ with default names. When you first log in you will see all your devices with a 'disconnected' status.
3. When devices arrive, carefully remove the contents from the packaging. If any of the contents look damaged, please send a picture to help@elementalmachines.com.
4. If you have ordered multiple Element-B's, ensure the Element-B being used is configured as Normally Closed (NC). This can be verified by checking the device label, the dashboard under 'Machine Model', or the packing list sent with your shipment.

- a. Element-B's can either be configured as Normally Closed (NC) or Normally Open (NO) by our team here at Elemental Machines. Different assets require different configurations. If you have ordered Element-B's for multiple assets, you may have a mix and need to be aware of attaching the correctly configured device to the correct asset.
5. Ensure there is an Elemental Machines Gateway set up in the vicinity of the Element-B.
- Depending on your location and application, your Gateway type may vary. If you have a tablet Gateway, brief setup instructions are given in Appendix 1: Gateway Setup below. If you have a Gateway Model GW2 or GW3, please follow the setup instructions in your Gateway, GW2 or GW3 User Manual.
 - **Note:** 'Vicinity' is within wireless connection range. This is usually up to 30 meters but can depend on the lab's layout.

Attaching Connection Cable to Asset

6. Disconnect power to the Hydrocheck meter.
7. Remove the back cover of the enclosure by unscrewing the four (4) screws.
- **Note:** The screws are captive and cannot be completely removed.
8. Locate Terminal Block 1, TB1, toward the center of the opened device. See Figure 1 below.
9. Slightly loosen the screws for the NC and COM slots as shown in Figure 1.

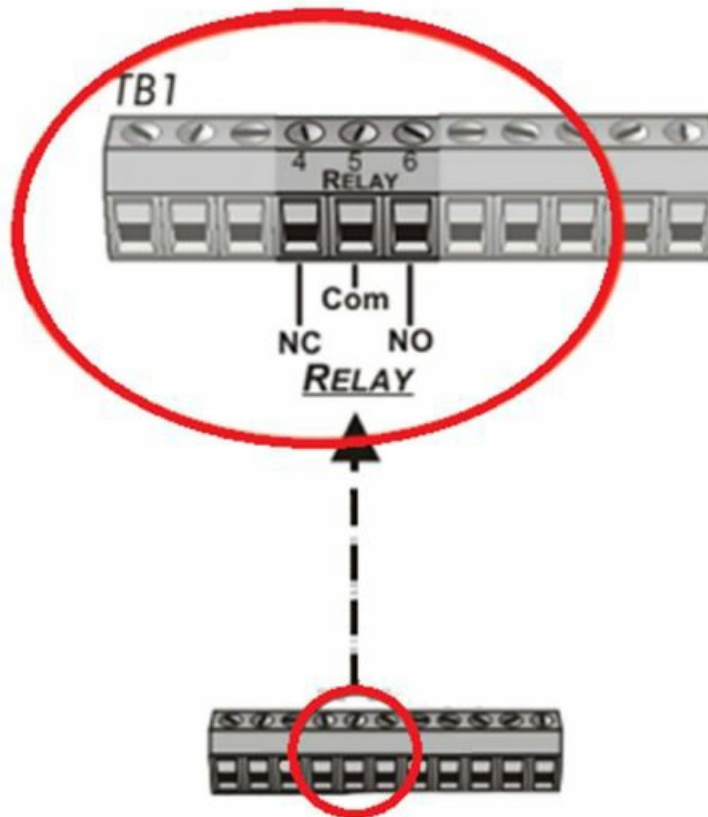
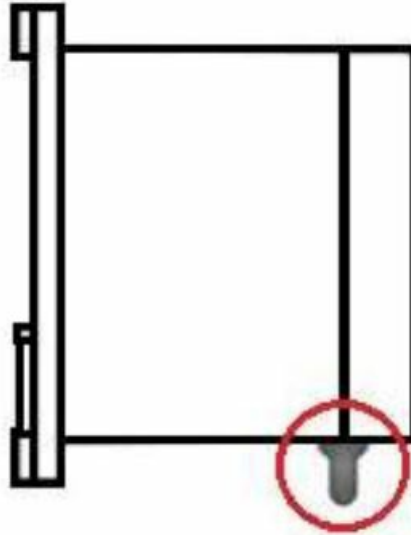


Figure 1 TB1 terminal block with NC and COM slots circled

10. Route the wires from the thermocouple cable through the port nipple on the bottom of the Hydrocheck 414R Series Water Quality Sensor. See Figure 2.



11. 11. Insert the RED and BLACK wires from the connection cable into the NC and COM Slots. Tighten the screws for the two slots.
12. Close up the Hydrocheck 414R Series Water Quality Sensor.

Attaching the Connection Cable to Element

13. Per your discretion, write the name and/or location of the equipment being monitored on the Element-B. This can be particularly helpful if multiple devices are being installed. Use of a Sharpie is recommended.
13. Plug the thermocouple end (Figure 3) of the connection cable into the Element-B.
 - Note Ensure the (-) and (+) prongs of the thermocouple end are properly matched.



Figure 3 Thermocouple end of Element-B connection cable

14. Pull the battery tab on the Element-B.

Positioning the Element-B

15. Determine where the Element-B should be placed so that it is not blocked, which allows a better wireless connection, and so that the connection cable is tidy.
16. Securely position the Element-B in the chosen location. The Element-B has magnets which make it easily mountable to magnetic surfaces.
 - **Note:** If applicable, an adhesive metal mounting plate available from EM may be used.

Programming Alerts

17. Adjust the Hydrocheck 414R Series Water Quality Sensor setpoint to the desired value. Refer to the Hydrocheck 414R Series Water Quality Sensor user manual for how to do so.
 18. Set up alert rules on the Elemental Insights Dashboard™ for the Element-B. Guidance on how to do so is available in the Support section of the dashboard.
- NOTE:** Alerts must be programmed on both the asset and the Elemental Insights Dashboard™ to receive

remote alerts through the Elemental Machines platform.

Appendix 1: Gateway Setup

Elemental Machines provides multiple styles of Gateways. If you have a Tablet Gateway (Model GW1), please follow the setup instructions below. For Gateway-2, please follow the setup instructions in the 771-00021 Gateway (Model GW2) User Manual. For Gateway-3, please follow the setup instructions in 771-00034 Gateway (Model GW3) User Manual.



Figure 4 Tablet Gateway (Model GW1)

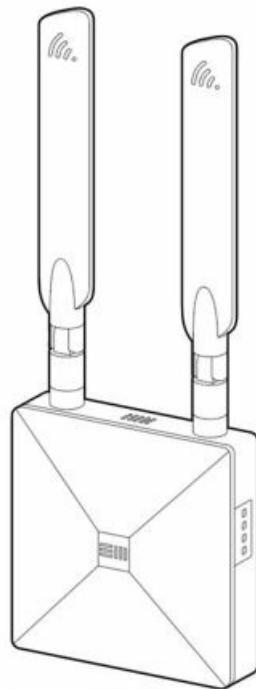
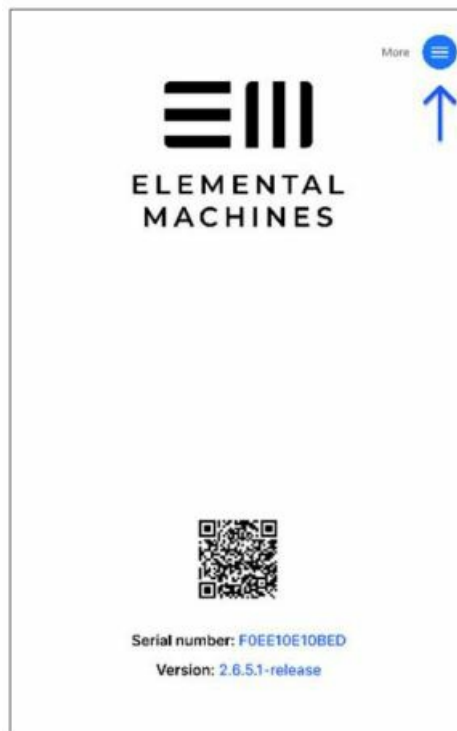


Figure 5 Gateway-2 (Model GW2)

Tablet Gateway (Model GW1) Software Setup

To power on the Gateway, press and hold the upper right-hand button on the device:

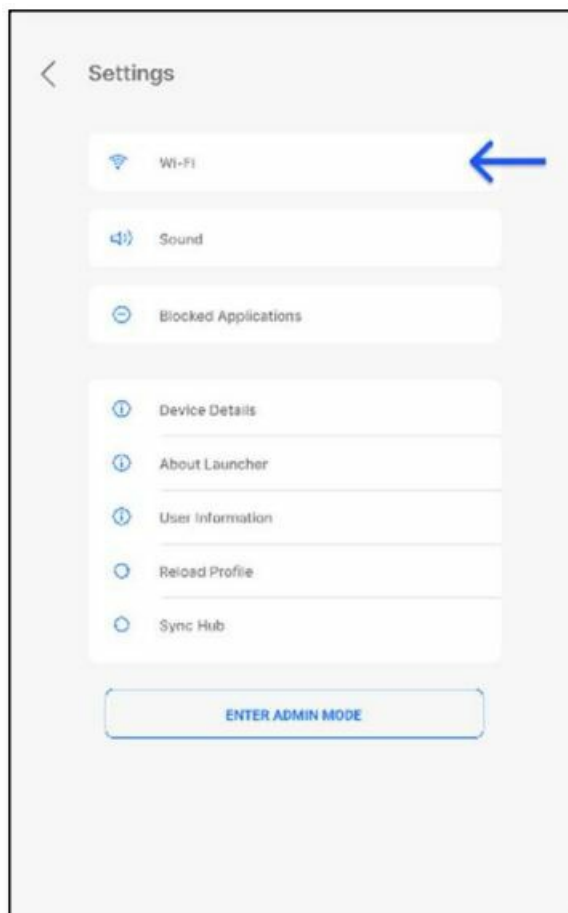
1. Wait for the main screen to come up
2. Press the 'home' button when you see the Elemental Machines Logo
3. Click on the blue circle in the upper right corner (if the circle is not visible, press the hardware home button on the bottom of the tablet to make it appear, or swipe up if you do not have a hardware button):



4. Click on the settings icon:



5. Select WiFi from the list:



Positioning the Tablet Gateway

Tablet Gateways collect data from the Elements, collating it and transmitting it across the internet to Elemental Machines' Cloud. The tablet Gateways' default is to transmit by Wi-Fi; for added reliability, they fall back to Cellular connection when Wi-Fi connection drops out. There is a danger of data delay or even loss if all connection is lost, so tablet Gateways should be positioned where they are getting good Wi-Fi and Cellular connection.

The strength of the Wi-Fi and Cellular connection is displayed by the Wi-Fi icon using Cellular bar icons. These icons are displayed on the tablet Gateway to the left of the battery percentage.

- 4 or more bars for both Wi-Fi and cell indicate good connectivity
- 2 bars for both Wi-Fi and cell run an increased risk of some data delay or loss
- <2 bars for cell or Wi-Fi carry a danger of significant data delay or loss

772-00004 rev 01 Element-B, EB1 EB2 Hydrocheck 414R Series Water Quality Sensor Installation Guide
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Documents / Resources

	<p>ELEMENTAL MACHINES EB1 Element-B Hydrocheck Water Quality Sensor [pdf] Installation Guide</p> <p>EB1, EB2, EB1 Element-B Hydrocheck Water Quality Sensor, Element-B Hydrocheck Water Quality Sensor, Hydrocheck Water Quality Sensor, Water Quality Sensor, Quality Sensor, Sensor</p>
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