ECOLAB HAND HYGIENE COMPLIANCE MONITORING SYSTEM (HHCM)

Ecolab
Hand Hygiene Program

June 2021

HHCM NEXA™ POC Holder User's Guide - Phase II

(92053075)

ECOLAB®
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ECOLAB HAND HYGIENE COMPLIANCE MONITORING SYSTEM (HHCM)

HHCM NEXA™ POC HOLDER
USER'S GUIDE - PHASE II

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Ecolab
Hand Hygiene Program

COMPLIANCE MONITORING SYSTEM COMPONENTS

Figure 1. Ecolab Hand Hygiene Program Compliance Monitoring System Components

1. INTRODUCTION TO THE HHCM NEXA™ POC HOLDER

The Hand Hygiene Program Compliance Monitoring System (referred to as “the System” throughout the rest of this document) is a state-of-the-art wireless hand hygiene reminder System designed to encourage best practices for hand hygiene in a healthcare facility. The **HHCM Nexa POC Holder** (part number 92053075) (also referred to throughout this document as the **HHCM POC**) is an integral component of the System. When the System is installed, healthcare facilities determine which dispensers they wish to have monitored, and a Beacon is installed in those dispensers. In some circumstances, the hospital may have a requirement for a dispenser with a smaller footprint, or there may be a need for more flexible mounting options. The HHCM POC provides the ability for healthcare workers to have product where they need it, at the point of care, and to get credit for each hand hygiene dispense. Each HHCM POC has a unique identification address that is associated to a specific location during the install process. In the case of the HHCM POC, it could be installed in a static location or a mobile piece of equipment.

The HHCM POC communicates with Healthcare Worker (HCW) System Badges to obtain Badge ID and status information during a dispense event. The dispense event communication sets the HCW Badge’s status to “Green” or “State 0”. The HHCM POC’s ID and the HCW Badge ID information, along with the time and date of the event, is transmitted by the HHCM POC to the nearest Hub, to be relayed to the offsite server for data compilation. Once the information exchange between the HHCM POC and the HCW Badge is complete, the HHCM POC’s LED (Light Emitting Diode) will light up Blue to indicate that the HCW has been credited with the dispense event.

2. HHCM NEXA POC SET UP

2.1 Installing Batteries

Each HHCM POC requires 2 AA alkaline batteries for operation. These must be installed prior to initial installation of the HHCM POC in its mounting location. The door to the HHCM POC battery compartment can be found on the back of the device (see Figure 2).

To install batteries prior to initial installation, complete the following steps:

1. Open the battery compartment door by gently unscrewing the thumb screw and releasing the door tab.

2. Once the battery compartment door has been opened, install two (2) AA alkaline batteries, aligning the positive (+) and negative (-) terminals of the batteries with the corresponding signs displayed within the battery compartment (Ecolab recommends that only Duracell® Coppertop batteries be used to power the HHCM POC).

3. Once the batteries have been installed, close and latch the battery compartment door gently hand tighten the thumb screw.

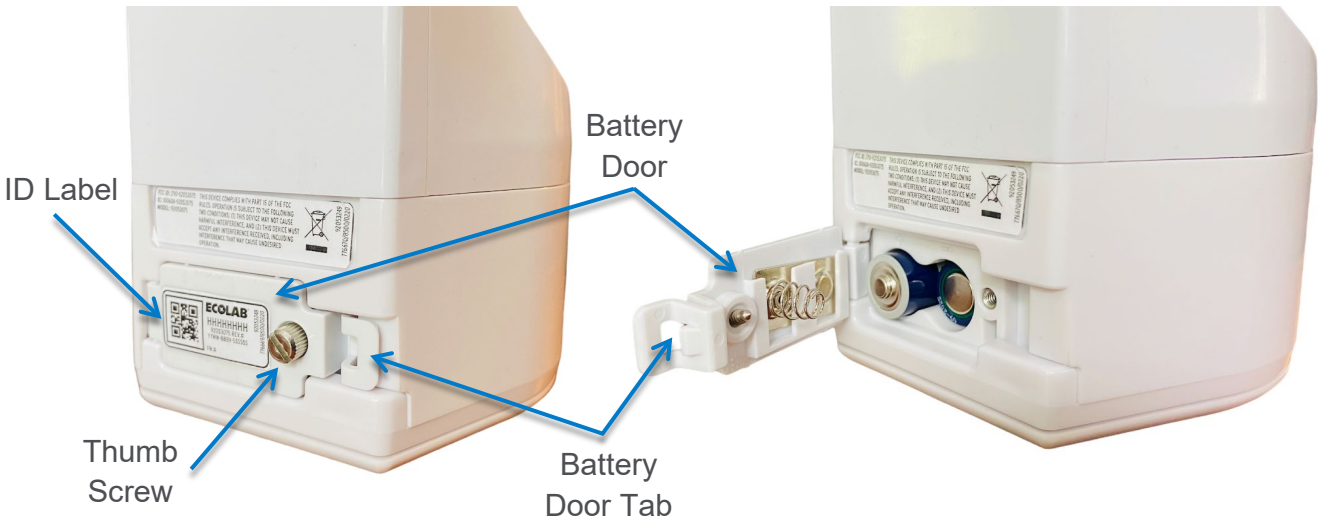


Figure 2. Battery door, battery door tab, thumb screw, and device ID label location

2.2 Adjusting Communication Range

The Beacon Installation Tool ("Installation Tool") is used to adjust the communication range on the HHCM POC.

To adjust the communication range:

1. Hold the Installation Tool within 10 inches of the HHCM POC and select mode "Range Adjust" (Refer to Ecolab Beacon Installation Tool User's Guide). Activate the HHCM POC (i.e., dispense product from bottle in holder or push buttons down manually) to establish communication between the HHCM POC and the Installation Tool. Note: both yellow and red LED on the Installation Tool will flash when it has successfully communicated with the HHCM POC. The HHCM POC address (device ID number) and its current range setting should be displayed on the Installation Tool screen (See Figure 3).

2. To adjust the communication range, press the UP (increase) or Down (decrease) key on the Installation Tool until the desired range setting is displayed, then press the "Select" button. An audible confirmation from the Installation Tool should be heard. Activate the HHCM POC again, to complete the update to the range setting on the HHCM POC. Note: The LED on the HHCM POC will flash two (2) times when the range setting has successfully updated.

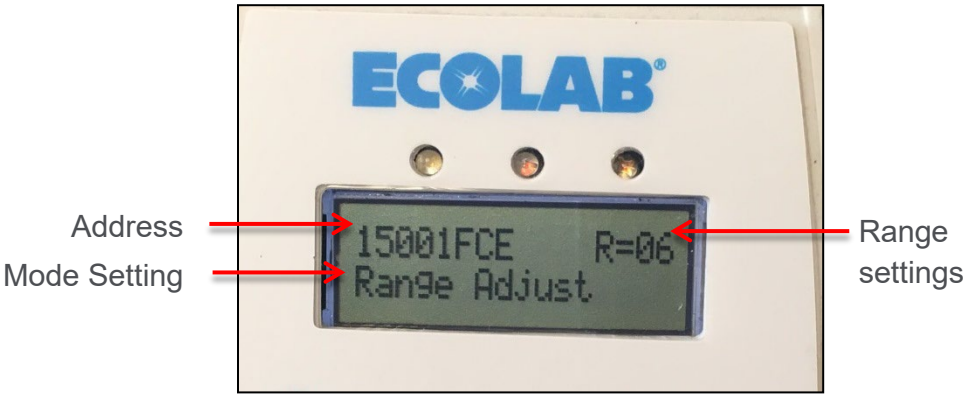


Figure 3. Installation Tool screen

2.3 Installation Guidelines for the HHCM Nexa POC Holder

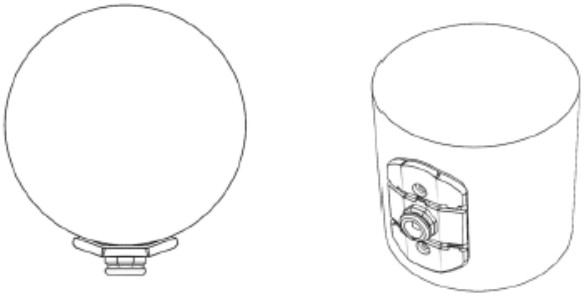
The HHCM POC was designed to allow for mounting in locations with limited or no wall space. The holder is supplied with an installed neck collar sized to fit with Ecolab 535 mL foamed hand hygiene products. If the HHCM POC is intended to be used with Ecolab's 540 mL liquid/gel hand hygiene products, a smaller neck collar can be installed by removing the pin from the neck collar using a #2 screwdriver.

Figure 4. HHCM Nexa POC Holder, Neck Collar Configurations

2.4 Mounting the HHCM Nexa™ POC Holder Using the Optional Mounting Plate

The mounting plate for the holder is designed to match the screw holes of existing DisposaCare 540 ml wall holders, or other units using a 2 inch hole spacing. For ADA compliance, mount between 15” and 48” above the floor.

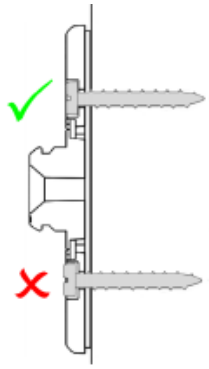
The mounting plate is designed to be used on both horizontal and vertical surfaces, as well as to adapt to contoured surfaces. Lengthwise living hinges will allow the plate to conform to surfaces as small as 2.5 inches in diameter.



Mounting the HHCM Nexa™ POC Holder Using the Optional Mounting Plate

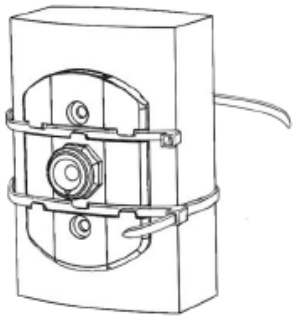
Installing Mounting Plate with Screws and Anchors

1. Clean and thoroughly dry the surface that the HHCM POC is to be mounted to. Alcohol wipes work well for hard surfaces such as ceramic tile.
2. Use two #10 screws and appropriate wall anchors. Place mounting place against the wall at the desired location. Using the holes in the mounting plate as a template, mark the wall with a pencil or sharp object.
3. Using an appropriate size drill bit for the anchors, drill the anchor holes.
4. Insert anchors into the holes.
5. Insert screws into the anchors and tighten
6. Verify that screw heads are recessed from the mount surface so that they do not interfere with the holder attachment.



Installing Mounting Plate with Cable Ties

1. Take two cable ties (part number 83109199) and slide them into the tracks on the mounting plate to prepare for attachment to the mounting surface.
2. It is recommended to also use the adhesive backing on the surface, as described in the tape installation instructions above.
3. Wrap the cable ties around the object and insert the male end into the female locking mechanism.
4. Pull tight to secure the mounting plate and remove the excess cable end.

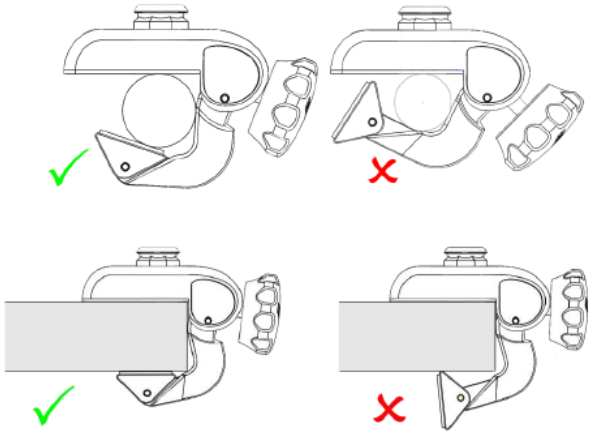


2.5 Installing the Optional Clamp for the HHCM - Nexa POC Holder

Identify a location that is structurally suitable and safe to use and support the holder assembly. The clamp is designed to accommodate ledges as large as 1.6 inches (40.64mm) and poles between 0.625 and 1.5 inches (15.88 and 38.1 mm) in diameter

(a) Open the clamp jaws to the appropriate size by turning the knob counterclockwise. NOTE: Do not fully remove the knob from the assembly.

(c) Tighten the clamp firmly by turning the knob clockwise until adequate grip is achieved.



2.6 Connecting the HHCM Nexa POC Holder to Mounting Plate or Clamp

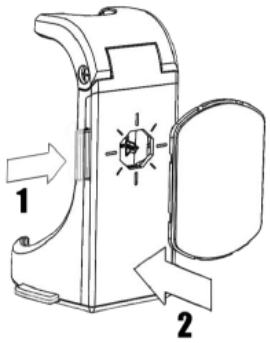
The HHCM POC can either be connected from the back or the bottom; choose the appropriate position for your location. The HHCM POC can also be connected to the mounting plate or clamp at 45 degree incremental angles, allowing for the HH product bottle to remain upright when mounted to diagonal ledges or poles. Mounting angles are identified by the indented lines around the octagonal mounting holes.

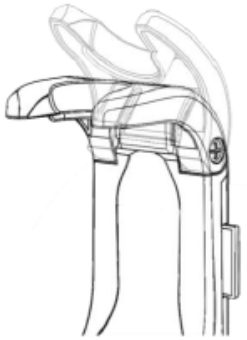
(a) Fully depress the blue button: use the side button when connecting to the back of the HHCM POC, and the bottom button when connecting to the bottom of the holder.

(b) Align the octagonal connector hole on the HHCM POC with the octagonal post on the mounting plate or clamp and push in to securely mate the two parts.

(c) Release the blue button fully before letting go of the HHCM POC.

(d) To disconnect the HHCM POC from the mounting plate or clamp, fully depress the same button that was used to connect the HHCM POC, and pull it off the mounting post.





2.7 Product Bottle Installation/Removal

The HHCM POC can be used with a variety of 535 ml and 540 ml Ecolab hand hygiene products. For a complete list of products and ordering information, please contact Ecolab customer service.

(a) After connecting the HHCM POC to the mounting plate or clamp, move the collar of the HHCM POC to the open position by lifting up from underneath the collar until it clicks into place.

(b) Insert the bottom of the hand hygiene product bottle into the HHCM POC and set it on the base platform.

(c) Push the collar of the HHCM POC into the closed position by pushing down on the collar until it clicks into place.

(d) To remove the product bottle from the HHCM POC, lift the collar into the open position and remove the bottle.

3. HOW THE HHCM NEXA POC HOLDER WORKS

The HHCM POC is a wireless device that detects and communicates with System HCW Badges and Hubs. The HHCM POC communicates with a HCW Badge based on its proximity to the device. When the HCW dispenses soap or sanitizer by depressing the product pump, this depresses the platform of the holder, and a proximity bubble is created around the HHCM POC which wakes up the HCW Badge and begins the information exchange between the devices. The HHCM POC then communicates time, date, Badge status and ID information (the HHCM POC ID and Badge ID) to a Hub, which relays it on to the remote server.

3.1 Interaction with a Healthcare Worker's Badge

When the hand hygiene product pump is depressed while in the HHCM POC, the HHCM POC's electronics will momentarily create a proximity bubble around the HHCM POC. If the Badge worn by the HCW dispensing the product is within the proximity bubble, the Badge will communicate with the HHCM POC's electronics and then change the Badge's hand hygiene status level to "Clean". If the Badge is not within the proximity bubble, it will not communicate with the HHCM POC's electronics nor will its hand hygiene status level change. This will result in the HCW not receiving credit for using the dispenser.

The default range of the HHCM POC's proximity bubble is about 36 inches in all directions, but the range can be adjusted if necessary. It is important for the HCW to wear their Badge in a location that insures it is within the HHCM POC's proximity bubble whenever it is activated (i.e., product is dispensed). It is also important that only one Badge is within the proximity bubble when the HHCM POC is activated. If more than one Badge is within the proximity bubble, the HHCM POC may unintentionally communicate with the wrong Badge (i.e., a Badge belonging to a HCW that did not dispense product from the HHCM POC). If this happens, the wrong Badge will change its hand hygiene status level and the wrong HCW will receive credit for using the hand hygiene product from the HHCM POC.

The HHCM POC is equipped with a user feedback LED. This blue LED will only flash when the HHCM POC has successfully communicated with a Badge. The LED flash will occur during or immediately after dispensing hand hygiene product from the HHCM POC. If the LED does not flash, the Badge may not have been within the proximity bubble or there was an error in communications.

Please take the following steps to ensure proper Badge communications and correct HCW credit when using an HHCM Nexa POC Holder:

1. HHCM POC's proximity bubble is set to ~36 inches.
2. Verify that the Badge is being worn in a location that will be within the HHCM POC's 36-inch proximity bubble.
3. Before dispensing product from the HHCM POC, verify that other HCWs are not within the HHCM POC's 36-inch proximity bubble. If there are other HCWs near the HHCM POC, kindly ask them to move away before activating.
4. Verify that the HHCM POC's LED flashed when product was dispensed. If the LED did not flash, repeat the dispense and make sure to depress the pump fully.

3.2 Interaction with a Hub

All HHCM POC's are equipped with a longer-range radio that allows them to transmit information to the System's Hubs. The HHCM POC will transmit to the Hub that is closest to it or from which it gets the strongest signal. At time of System install, it is verified that all HHCM POCs are in range of at least one Hub.

When the product pump is depressed, the HHCM POC is activated, and will create a proximity bubble and search for HCW Badges. If the user is wearing a Badge, the Badge's hand hygiene status will be updated by the HHCM POC. The HHCM POC will then transmit the Badge's hand hygiene status just prior to and immediately after the dispense, to the Hub. The HHCM POC will also transmit the time, and date of the event, along with the battery status of the HCW Badge and the HHCM POC. If the user is not wearing a Badge, or the badge is not within the proximity bubble, the time, date and HHCM POC ID for the product dispense event will be relayed to the Hub as a "non-Badged dispense".

In addition to communication of dispense event data, all HHCM POCs proactively send their ID and battery status information to a Hub on an approximately hourly basis, if no dispense events have occurred within the hour.

4. HHCM NEXA POC HOLDER INFORMATION

The HHCM POC proactively sends its battery level and status information to a Hub. This information can be accessed through the System Dashboard, to generate a report showing Dispenser Beacons with low battery level. If communication to a Hub is temporarily lost, each HHCM POC has the capability to store events. If this number of events is exceeded before communication to the Hub is restored, the oldest events will be overwritten, thus resulting in some loss of data.

4.1 Dispense Event Confirmation LED

The HHCM POC's blue LED, which flashes once during or immediately after a **dispense event, indicates that the HCW Badge information has successfully been communicated to the HHCM POC**. The HHCM POC will then send this information to a Hub, which will eventually relay it to the offsite server for compilation and archiving.

5. HHCM NEXA POC HOLDER CARE AND MAINTENANCE

5.1 Handling

The HHCM POC is an electronic device and should be handled with care. Like other electronic devices, such as a cell phone, the HHCM POC must be protected from extreme heat, cold and moisture. Avoid handling the HHCM POC with wet hands or exposing it to water. Dropping or tossing the HHCM POC can result in damage to the internal electronics.

5.2 Cleaning

If the HHCM POC becomes soiled, the exterior only may be cleaned with a non-abrasive, alcohol-free cleaning product on a non-abrasive wipe, sponge or cloth. The wipe/cloth may be dry or slightly damp but not dripping wet. Do not attempt to clean any interior surface of the HHCM POC, as this can damage the circuitry. Do not use abrasive cleaners, or spray cleaning products. Ecolab OxyCide Daily Disinfectant Cleaner and Ecolab Quaternary Disinfectant Wipes are strongly recommended for cleaning the HHCM POC.

5.3 Battery Replacement

Typical HHCM POC battery life is about three years, but this may vary depending on use. When a HHCM POC's batteries are dead, it will no longer communicate with other System devices. The Dashboard software also monitors the battery level of each HHCM POC. It will send an email alert to a designated maintenance person assigned by the healthcare facility when a HHCM POC's batteries are low (20% or less remaining battery capacity). The maintenance person should replace the batteries as soon as possible to prevent loss of data.

Supplies

The following supplies are required to replace the HHCM POC's battery:

1. Two (2) alkaline AA Duracell® Coppertop Batteries

Battery Replacement Steps

The following steps describe how to replace the batteries:

1. Lift up the neck collar and remove product bottle (if any) from the HHCM POC and set aside.
2. Remove the HHCM POC from the clamp or mounting plate by pressing the blue button to release the post and pulling the HHCM POC off of the clamp or mounting plate.
3. Holding the HHCM POC so that the rear side is facing up, open the battery compartment door by gently loosening the thumb screw and releasing the battery door tab.
4. Once the battery compartment door has been opened, remove the existing batteries and set them aside for disposal. Install two (2) AA alkaline batteries, aligning the positive (+) and negative (-) terminals of the batteries with the corresponding signs displayed within the battery compartment (Ecolab recommends that only Duracell® Coppertop batteries be used to power the HHCM POC).
5. Once the batteries have been installed, close the battery door until the tab 'clicks' into place. Gently tighten the thumb screw. Ensure the battery door is firmly secured before replacing the HHCM POC onto the clamp or mounting plate.
6. Replace the product bottle in the HHCM POC.
7. Lower the neck collar to secure the product bottle.
8. Dispose of the old batteries. Check with the healthcare facility for the proper disposal procedure.

APPENDIX A – CERTIFICATION AND SAFETY APPROVALS

FCC Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment causes harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING: Changes or modifications not expressly approved by Ecolab could void the user's authority to operate the equipment.

RF Exposure: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Industry Canada

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This radio transmitter (IC: 10060A-92053067) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (IC: 10060A-92053067) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Magnetic Loop antenna, 125kHz
Ceramic Chip Antenna, 902MHz ~ 928MHz, peak gain -1dBi

FCC & IC Label Information

The FCC & IC label information that contains the FCC ID Number, IC ID Number, Device Model Number, and FCC Statement "THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION." is located on the back portion of the Manual Beacon.

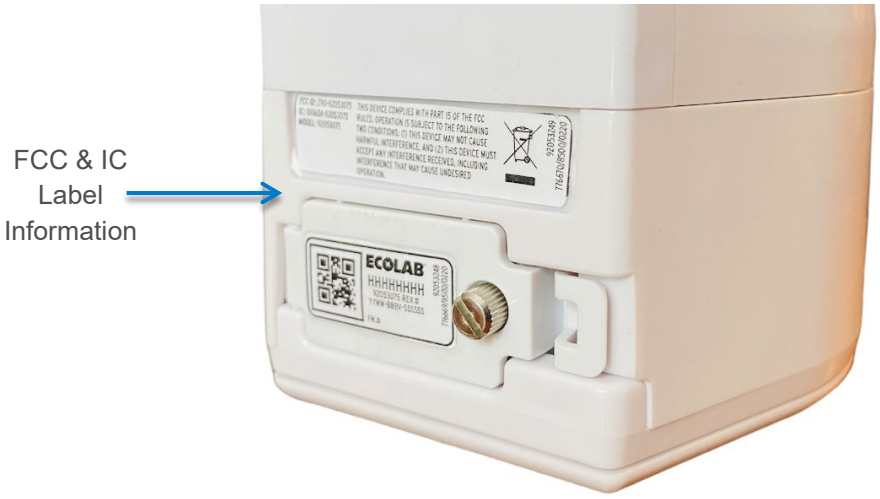


Figure 5. FCC & IC Label Information

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