

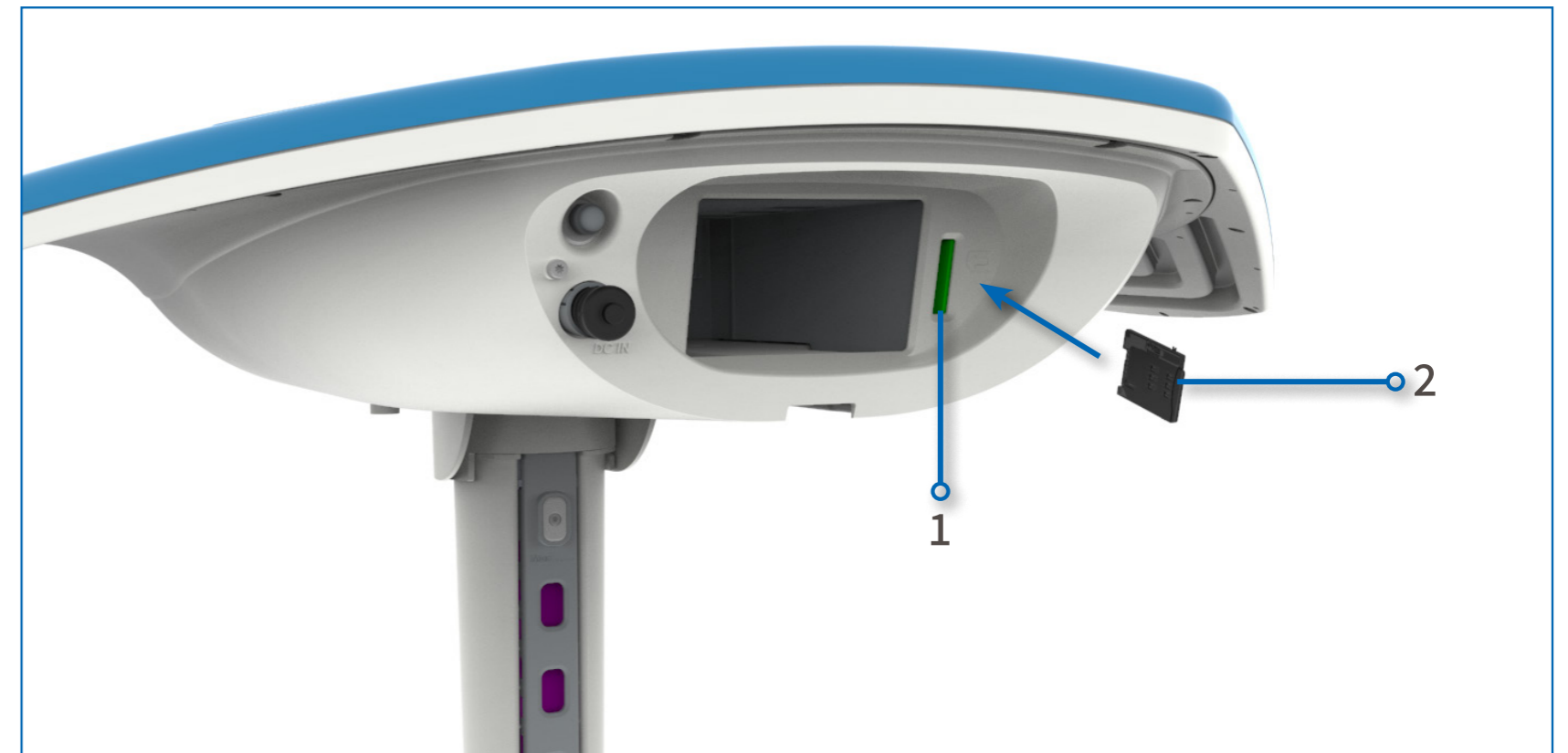
Inserting the SIM Card (Optional)



NOTE:

CORAL MANTA includes an integrated SIM card. This procedure is needed only for customers who purchased CORAL MANTA without a SIM card.

Verify correct orientation and push the card (2) into the slot (1).



MENU

INTRODUCTION

FIRST INSTALLATION

ROUTINE OPERATION

MAINTENANCE

TROUBLESHOOTING

SPECIFICATIONS

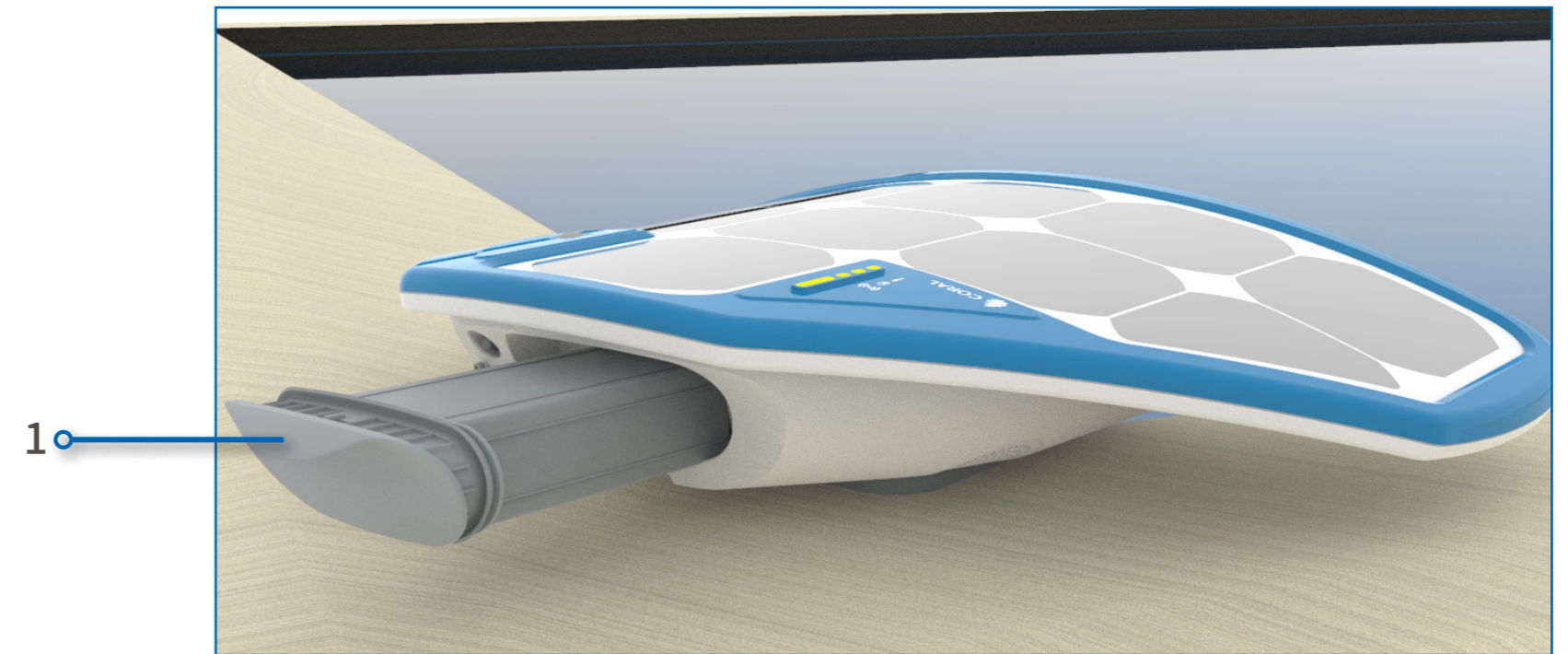


Inserting the Battery

To insert the battery into the mounted pool unit:

1. Remove battery pack protection.
2. Verify correct orientation of the battery and insert the battery into the pool unit. Use the handle (1) to push the battery in.

Once the battery is inserted, a short alarm sounds and all LED indicators blink.



MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

Charging the Battery

The pool unit battery can be charged using the pool unit charger. When the battery level is low, the battery level indicators on the home unit and the pool unit indicate low battery ([see Battery Level Indicator on page 10](#)) and a notification is received on the paired mobile device.

To charge the pool unit, plug the pool unit charger to the DC IN port (1) on the pool unit and plug the other end to a power outlet.



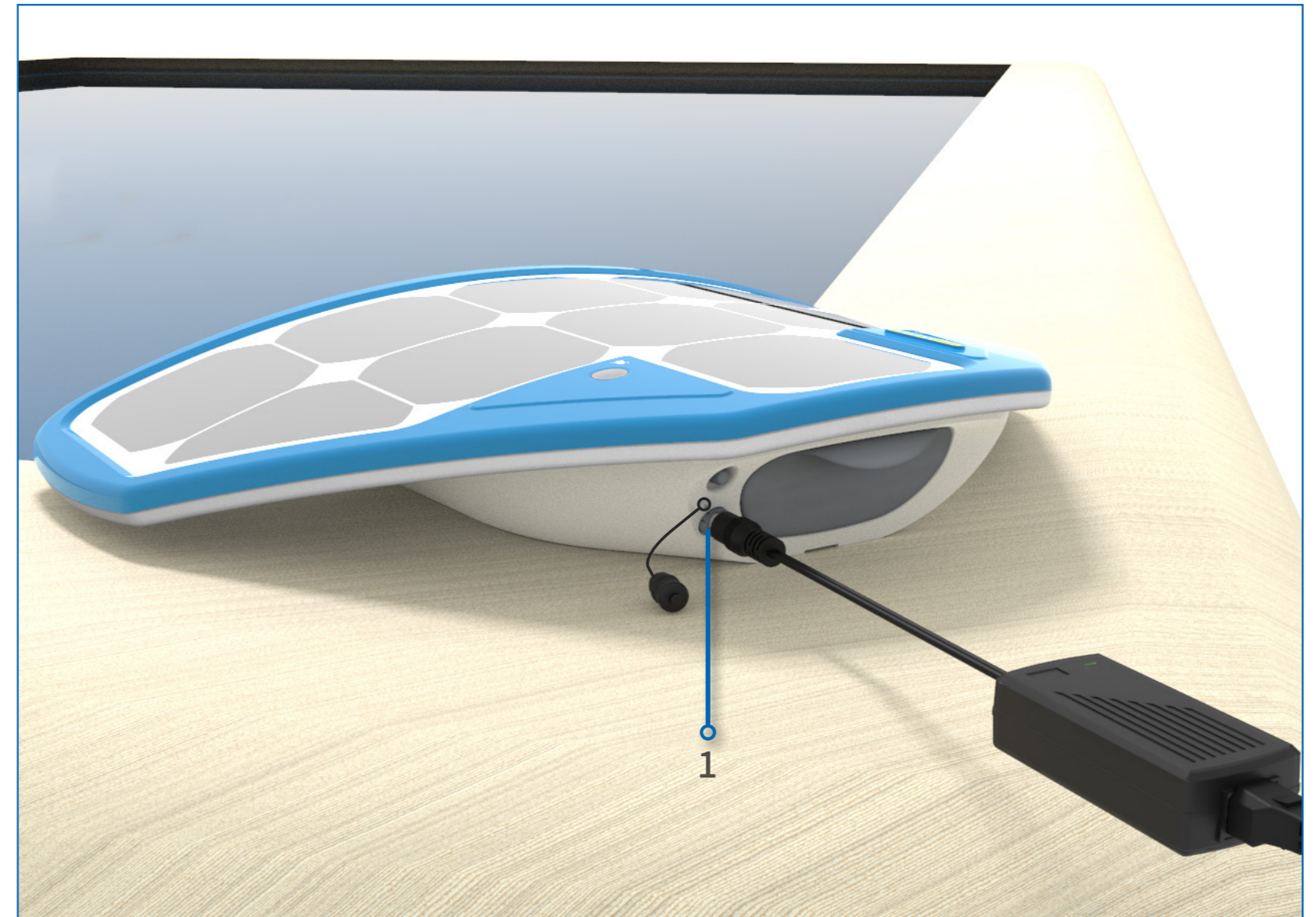
NOTE:

It is recommended to fully charge the battery before first use.



WARNING:

The 110V/220V AC outlet should be as far from the pool as required by your state/local laws.



MENU

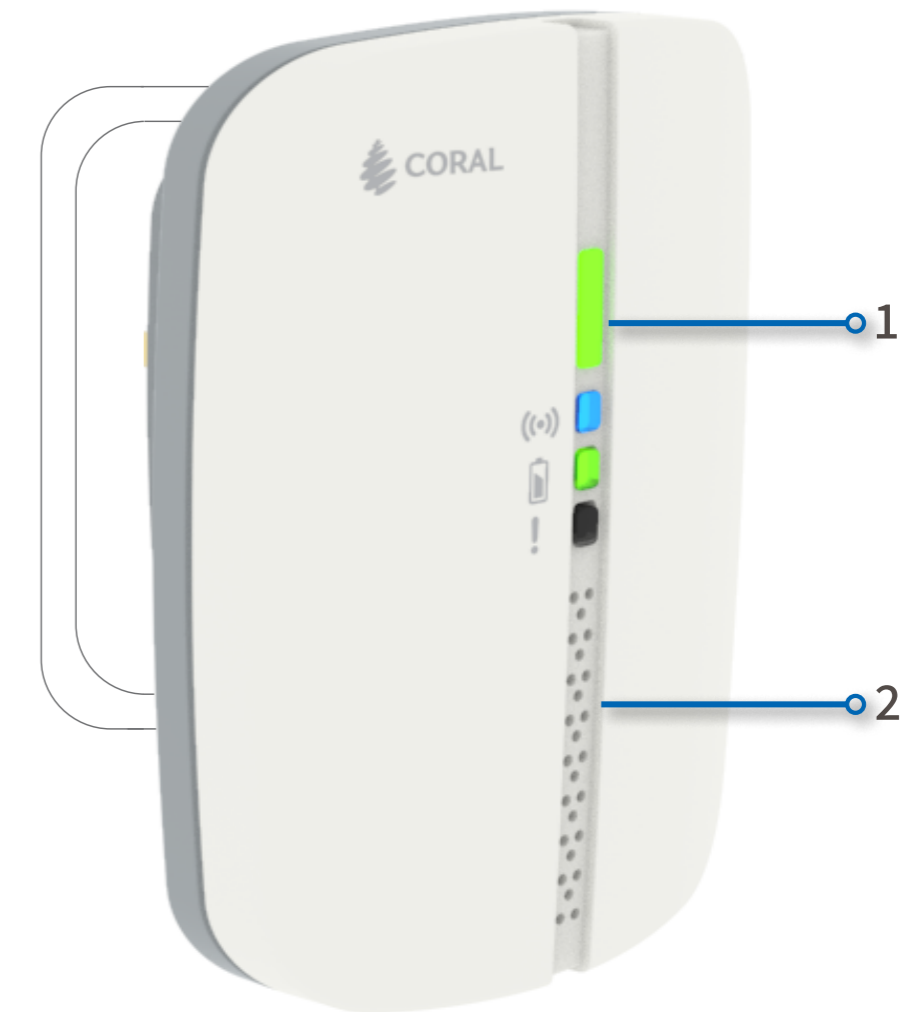
[INTRODUCTION](#)
[FIRST INSTALLATION](#)
[ROUTINE OPERATION](#)
[MAINTENANCE](#)
[TROUBLESHOOTING](#)
[SPECIFICATIONS](#)


Connecting the Home Unit

To install the home unit, plug it into a power outlet inside the house, as close as possible to the pool unit. The distance between the two units should not exceed 50 yards.

Once the home unit is plugged in and the pool unit is operational, the following indications occur:

1. System starting – all LEDs blink in all colors and the buzzer (2) emits a short beep.
2. Pool unit and home unit are in handshaking process – all LEDs blink green.
3. Pool unit and home unit are connected, analytics are up, no presence in the pool – pool activity indicator (1) blinks green slowly.



Downloading Coral Drowning Detection Application

Download **Coral Drowning Detection** mobile application from Google Play Store or Apple App Store.

MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

Routine Operation

This section reviews the tasks associated with operating the Coral Detection System, and includes:

- [Detection Scenarios](#)
- [Mobile Application Operation](#)



NOTES:

- Alerts on the mobile device depend on cellular communication. When the carrier signal is not steady or weak, you might not receive timely alerts and notifications.
- Never rely solely on alerts on the mobile device.

MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

Detection Scenarios

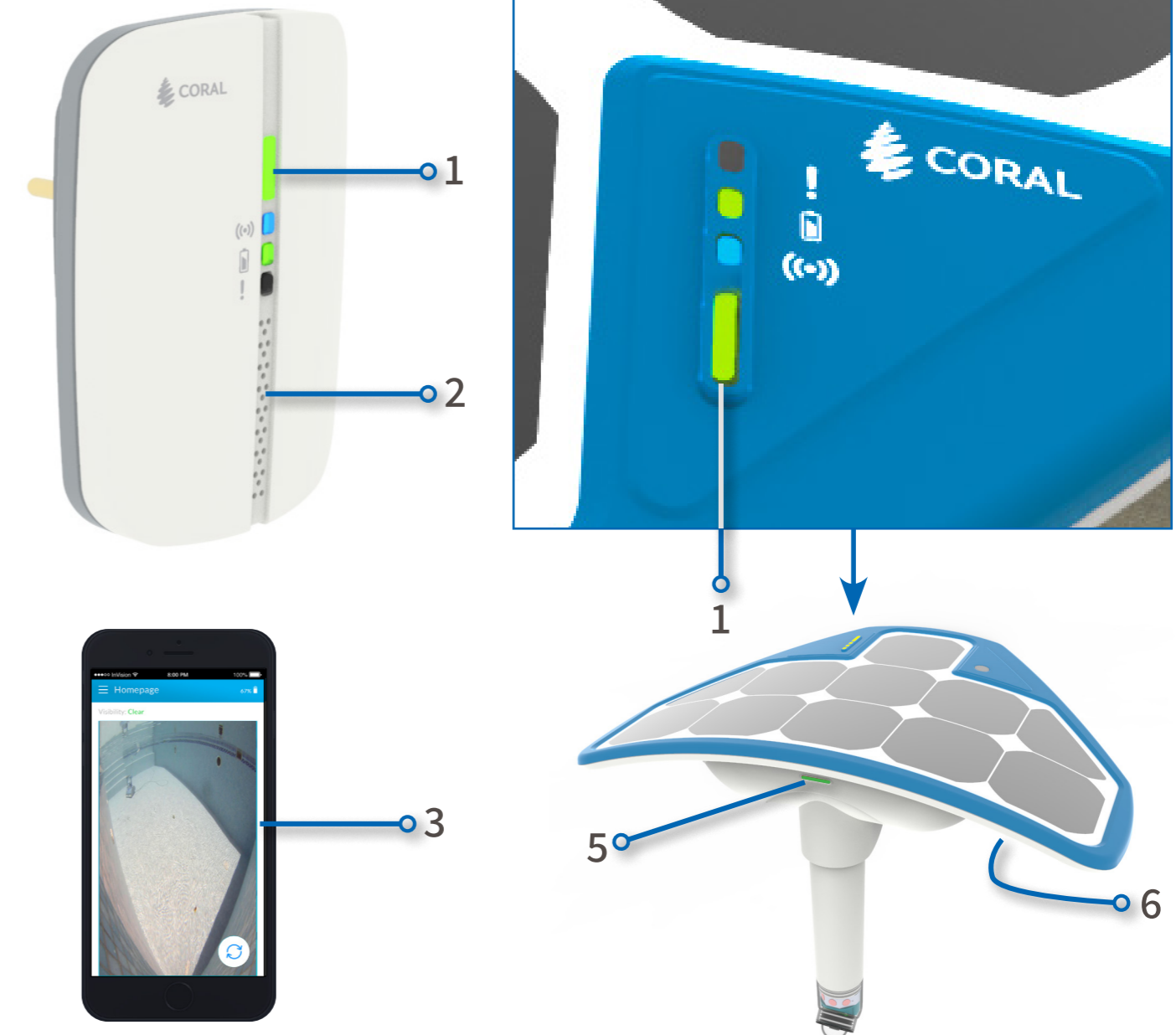
This section reviews the indications provided by CORAL MANTA throughout the scenarios that might happen in the pool.

The system uses the following indications to report the identified pool activity:

- Pool activity indicator on the pool unit (4, 5) and on the home unit (1)
- Buzzer on the pool unit (6) and on the home unit (2)
- Mobile app (3)

When CORAL MANTA is operational, it might identify one of the following scenarios:

- [Pool is Unoccupied](#)
- [Entrance to the Pool](#)
- [Normal Pool Use](#)
- [Drowning Suspicion](#)
- [Drowning Alert](#)
- [Drowning Critical Alert](#)



MENU

[INTRODUCTION](#)
[FIRST INSTALLATION](#)
[ROUTINE OPERATION](#)
[MAINTENANCE](#)
[TROUBLESHOOTING](#)
[SPECIFICATIONS](#)


POOL IS UNOCCUPIED

- **Scenario description** – CORAL MANTA is operational and detects no presence of people in the pool.
- **Indications** – pool activity indicator blinks green slowly and the buzzer is silent.

ENTRANCE TO THE POOL

- **Scenario description** – CORAL MANTA detects entrance to the pool.
- **Indications** – pool activity indicator blinks green quickly, buzzers emit a single beep, and a notification with image of the pool is sent to the mobile device. The pool activity indicator continues to blink as long as there is someone in the pool.

NORMAL POOL USE

- **Scenario description** – CORAL MANTA detects presence of at least one person in the pool. No detection of drowning signs. After the last person leaves the pool, the status changes to [Pool is Unoccupied](#). If a person returns to the pool shortly after the pool was cleared, CORAL MANTA skips the [Entrance to the Pool](#) state and does not send an alert of the pool entry.
- **Indications** – pool activity indicator blinks green quickly.

MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

DROWNING SUSPICION

- **Scenario description** – CORAL MANTA detects a person at risk of drowning for about 10 seconds . If signs of drowning disappear, status changes to [Normal Pool Use](#).
- **Indications** – pool activity indicator blinks red quickly, buzzers sound a single loud alarm.
- **Alert Dismiss options** – the Dismiss button on the pool unit ([see Dismiss Button on page 12](#)) and via the mobile app.

DROWNING ALERT

- **Scenario description** – CORAL MANTA detects a person at risk of drowning for an additional 10 seconds. If signs of drowning disappear, status changes to [Normal Pool Use](#).
- **Indications** – pool activity indicator blinks red quickly, buzzers sound a loud siren.
- **Alert Dismiss options** – the Dismiss button on the pool unit ([see Dismiss Button on page 12](#)) and via the mobile app.

DROWNING CRITICAL ALERT

- **Scenario description** – CORAL MANTA detects a person at risk of drowning for an additional 10 seconds.
- **Indications** – pool activity indicator blinks red quickly, buzzer sound a continuous loud siren.
- **Alert Dismiss options** – the Dismiss button on the pool unit ([see Dismiss Button on page 12](#)) and via the mobile app.

MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

Mobile Application Operation

This section provides an overview of the Coral Drowning Detection mobile application, and includes:

- [Downloading the App](#)
- [First Operation](#)
- [Screen Overview](#)
- [Notifications and Alerts](#)
- [Teaching the System](#)

DOWNLOADING THE APP

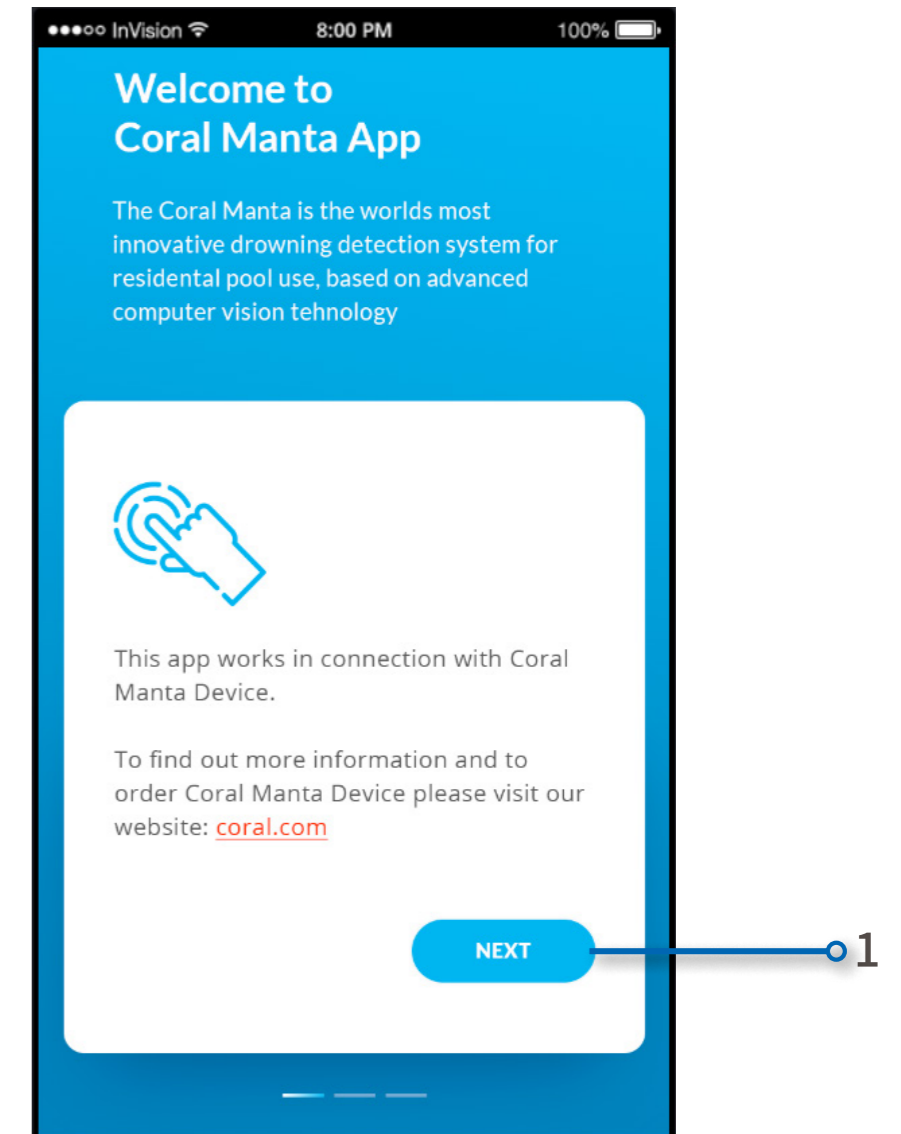
1. Using a mobile device, search for the **Coral Drowning Detection** app in the Google Play store or the Apple App Store.
2. Press **Install**.
3. Allow the app to send notifications. Otherwise, alerts will not be received on the mobile device.
4. Allow the app to access the camera in order to scan the QR-code ([see QR-code on page 36](#)). Otherwise, the CORAL ID will need to be entered manually.
5. Follow the installation instructions.

MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

FIRST OPERATION

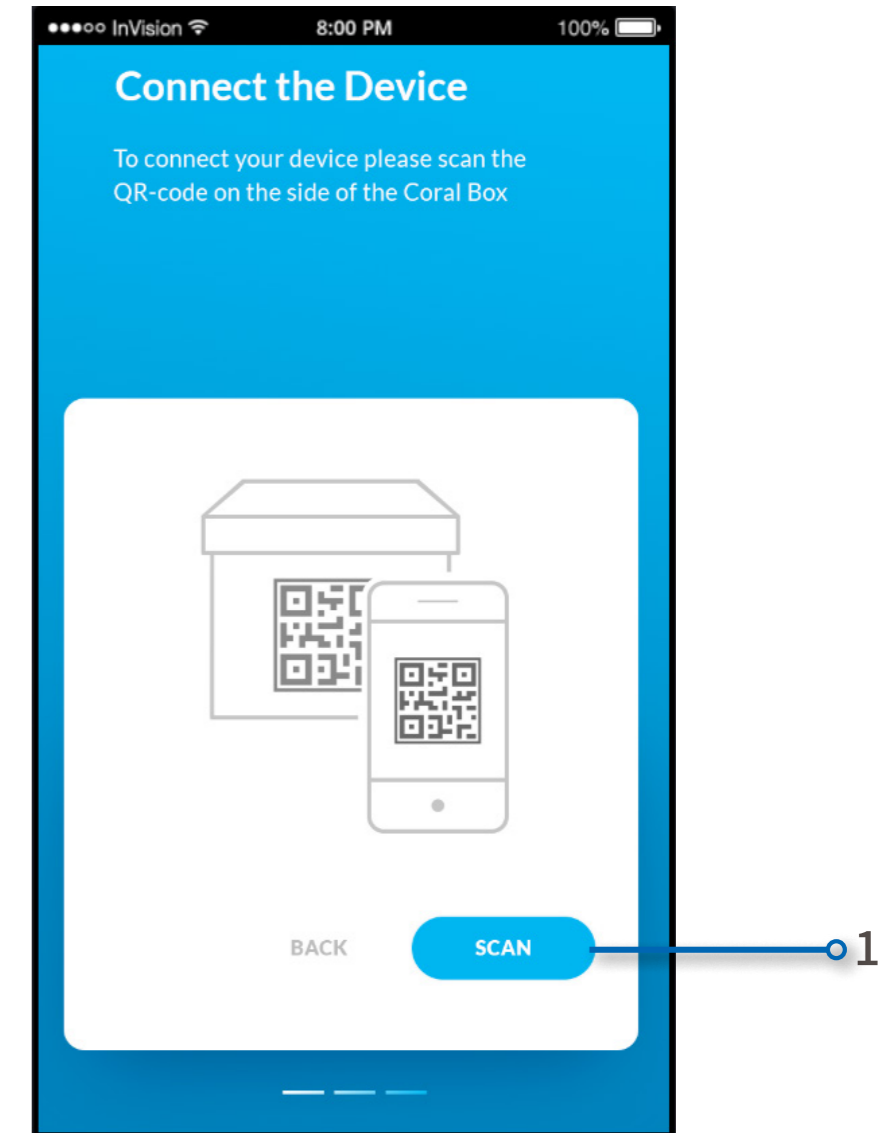
1. Launch the **Coral Drowning Detection** app.
2. Tap **NEXT** (1) on the first introductory screen after viewing the content.



MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

3. To connect to the device, tap **SCAN** (1).
4. Scan the QR-code on the side of the CORAL MANTA package or on the back of the home unit.



MENU

INTRODUCTION

FIRST INSTALLATION

ROUTINE OPERATION

MAINTENANCE

TROUBLESHOOTING

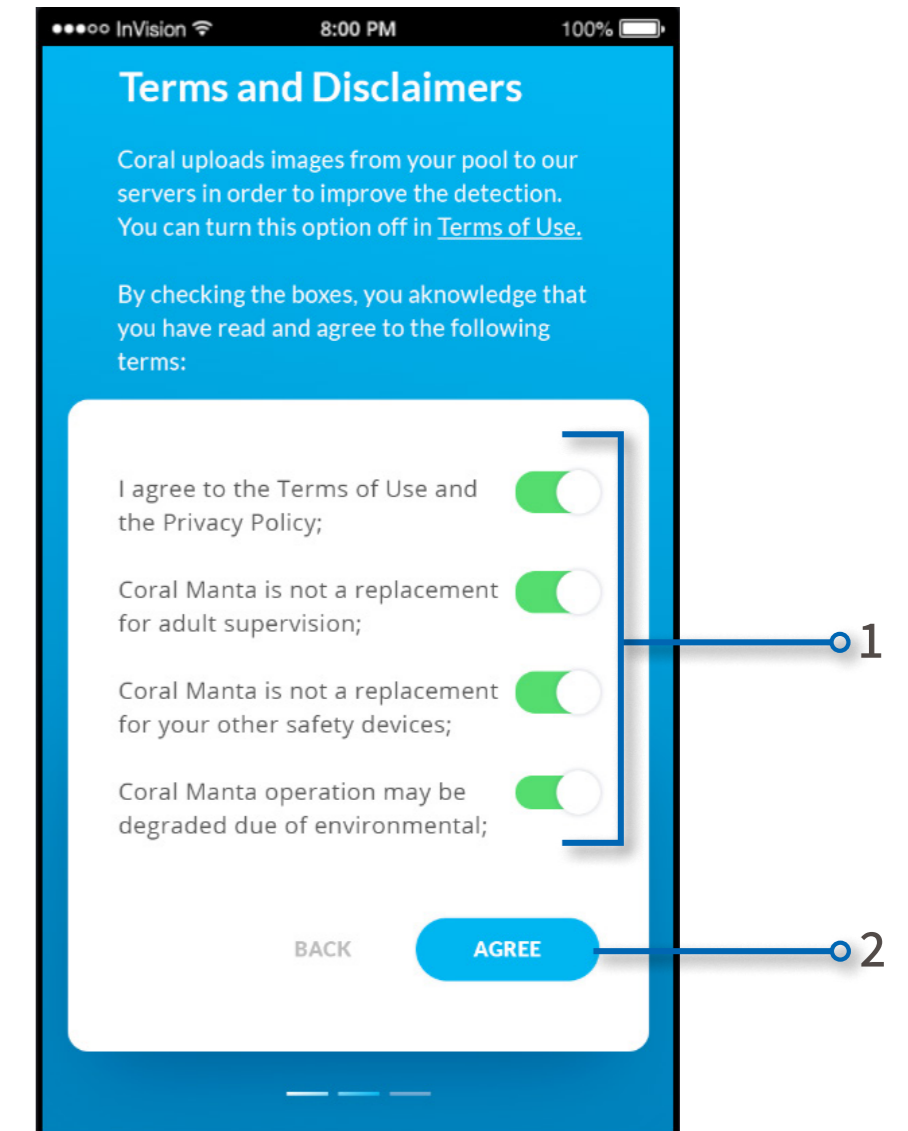
SPECIFICATIONS



5. Confirm reading all terms and disclaimers (1).
6. Tap **AGREE** (2).

**NOTE:**

CORAL MANTA will not start working until all terms and disclaimers are acknowledged via the mobile app.

**MENU**

INTRODUCTION

FIRST INSTALLATION

ROUTINE OPERATION

MAINTENANCE

TROUBLESHOOTING

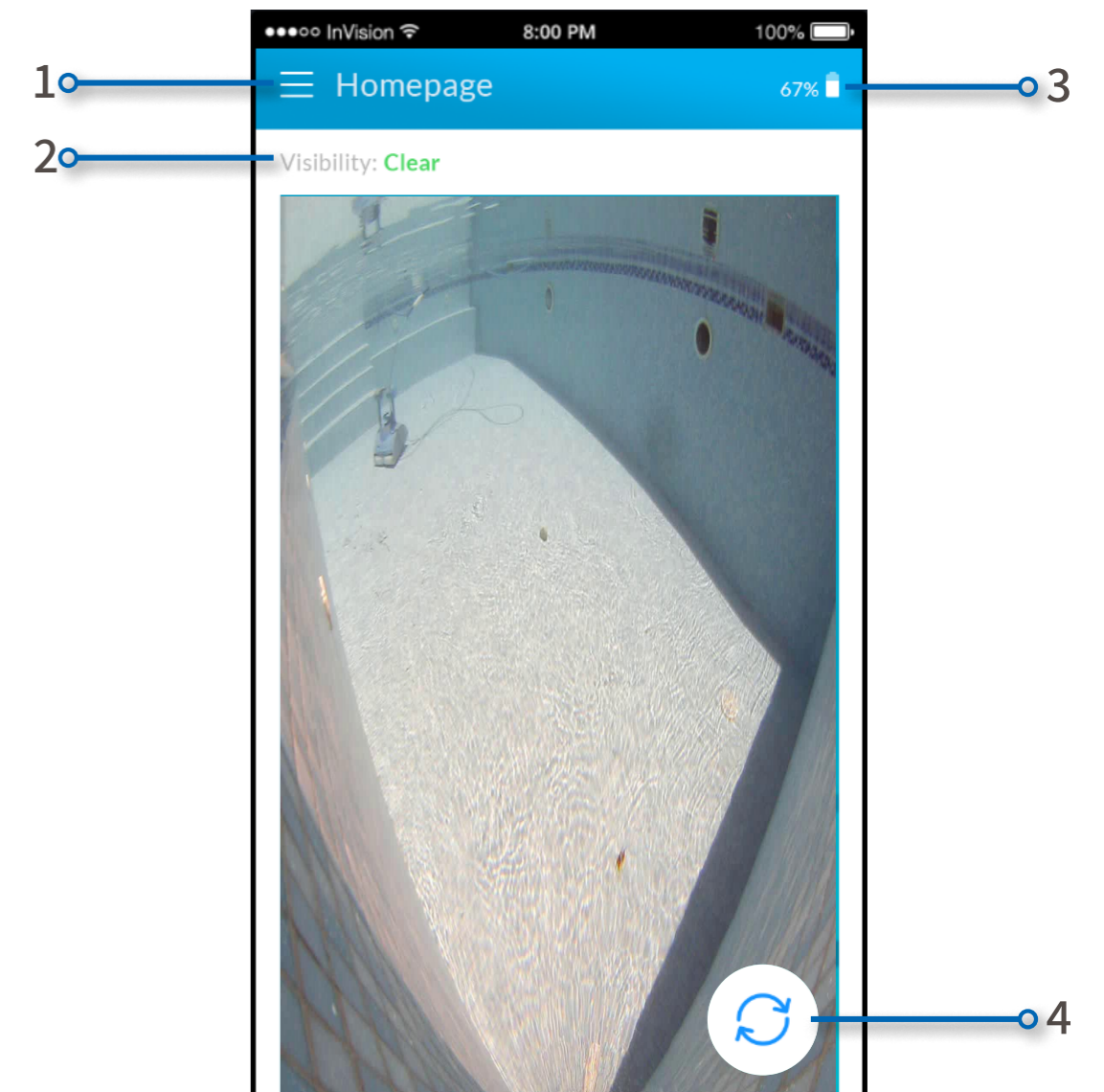
SPECIFICATIONS



SCREEN OVERVIEW

The main screen of the app includes the following:

- **Menu button (1)**
- **Visibility (2)** – displays the status of the pool water clarity
- **Battery level indicator (3)** – displays the pool unit battery level
- **Refresh button (4)** – refreshes the app to display most current underwater image



MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

APPLICATION SETTINGS

To access the Settings screen:

1. Tap the **Menu button** (1).
2. Tap **Settings** (2).

The Settings screen includes the following options:

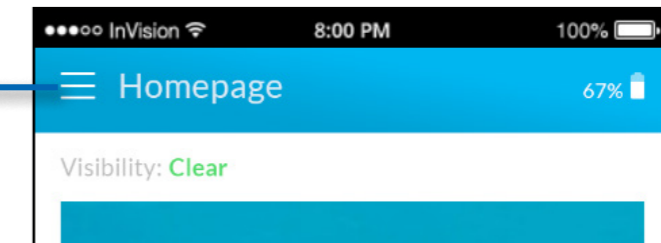
- **Alarms on entrance (3)** – by activating this option, the mobile device provides a long continuous alarm (and not just a short loud alarm) when the pool unit detects entrance to the pool ([see Entrance to the Pool on page 32](#)).
- **Notification restrict (4)** – activating this option enables selecting a daily time frame during which no notifications are received.



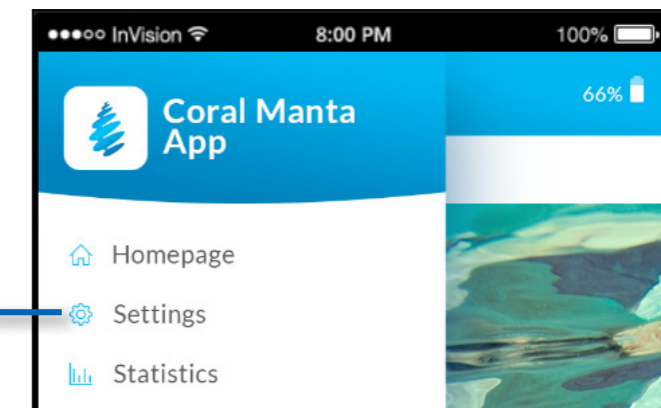
NOTE:

Notification restriction refers to non-drowning notifications. Drowning alarms can not be restricted and are received at all times.

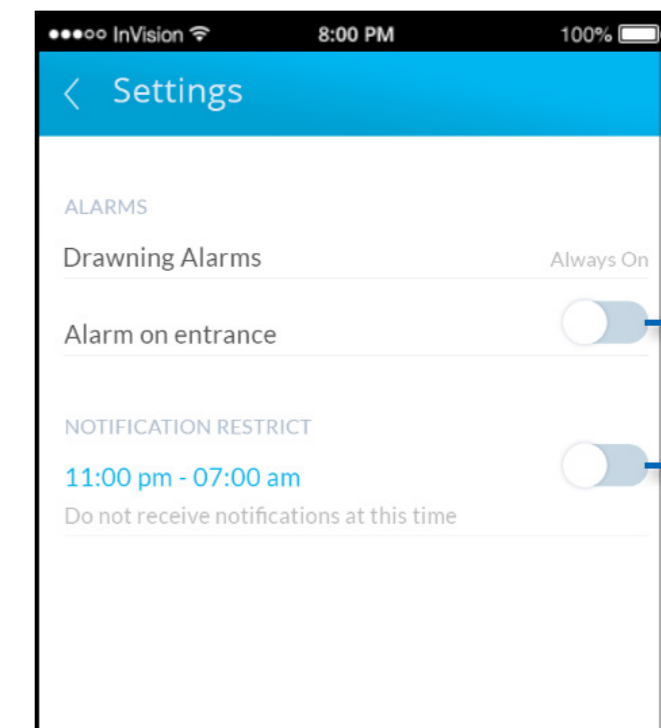
1



2



3



4


MENU

[INTRODUCTION](#)
[FIRST INSTALLATION](#)
[ROUTINE OPERATION](#)
[MAINTENANCE](#)
[TROUBLESHOOTING](#)
[SPECIFICATIONS](#)


NOTIFICATIONS AND ALERTS

When the pool unit detects a drowning scenario ([see Detection Scenarios on page 31](#)), the mobile device provides an alert and footage from the pool is displayed on the screen.

- Tap the **False Alarm** button (1) to dismiss the alarm.
- Tap the **Mute** button (2) to silence the buzzer sound.

	WARNING:
	<ul style="list-style-type: none"> ▪ Do not dismiss or mute an alarm before verifying that there is no danger of drowning. ▪ Never tap the False Alarm button (1) unless you are absolutely sure that there is no person in danger.



MENU

INTRODUCTION

FIRST INSTALLATION

ROUTINE OPERATION

MAINTENANCE

TROUBLESHOOTING

SPECIFICATIONS



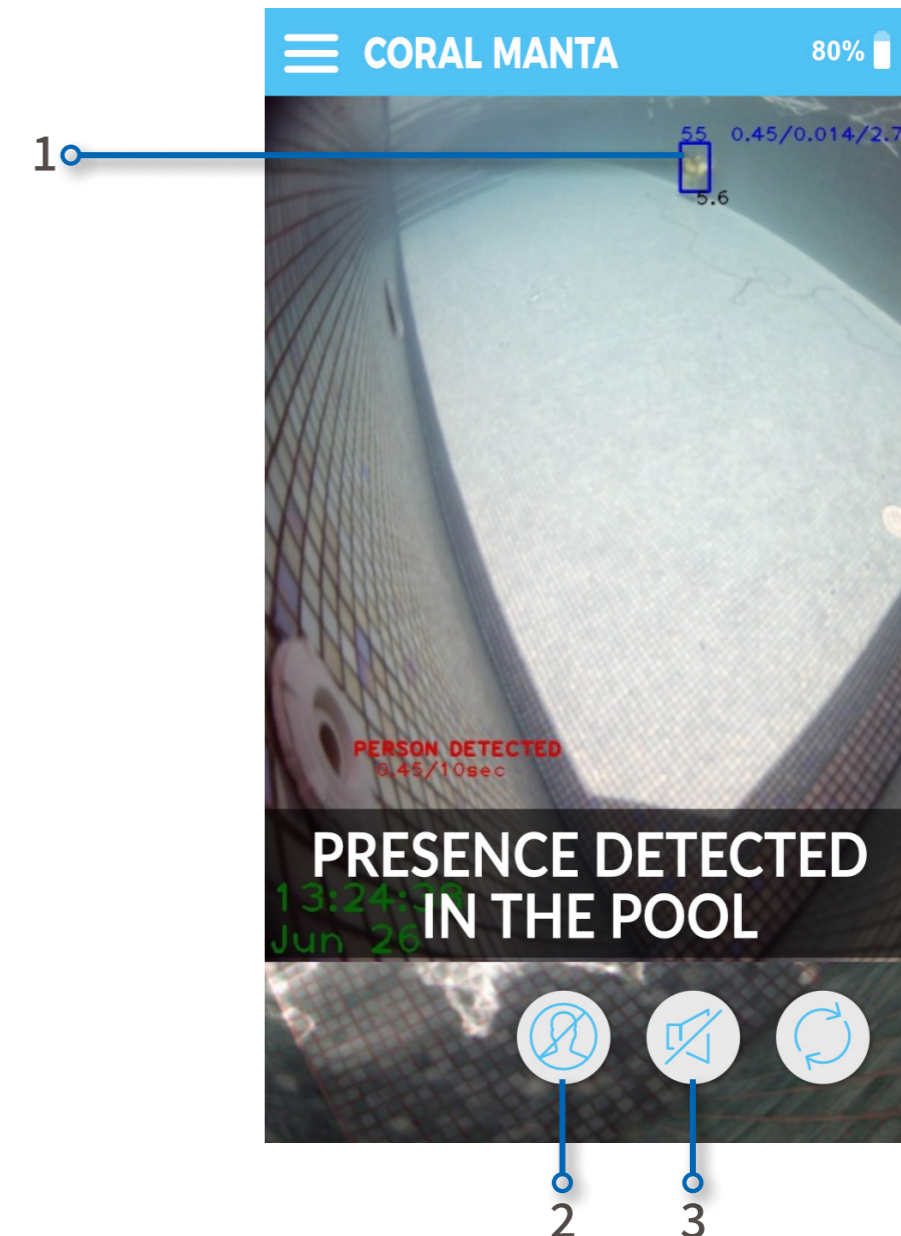
TEACHING THE SYSTEM

CORAL MANTA is programmed to detect almost any drowning situation and ignore detections of objects and other non-drowning scenarios. Each pool has unique elements and CORAL MANTA can learn and adjust to the specific elements of the pool it is installed in. During the first few weeks of system operation, CORAL MANTA might be confused by such elements and generate more false alarms or false Entrance to the Pool alerts ([see Entrance to the Pool on page 32](#)). These false alarms are quickly reduced and nearly disappear thanks to the ability of the system to learn what triggers false alarms.

How it Works

When getting an alarm or an Entrance to the Pool alert, the image that generated the alarm is displayed in the mobile application along with the following buttons:

- **Mute (3)** – tap to silence the alarm and not teach the system to ignore similar images in the future. Use this option when there is a person in the marked square (1) but you are absolutely sure that there is no drowning risk (e.g., someone is diving and appears to be drowning but you are certain that they are not at risk).
- **False Alarm (2)** – tap to dismiss the alarm. Use this option ONLY if you are sure there is no person or body part in the marked square (1).

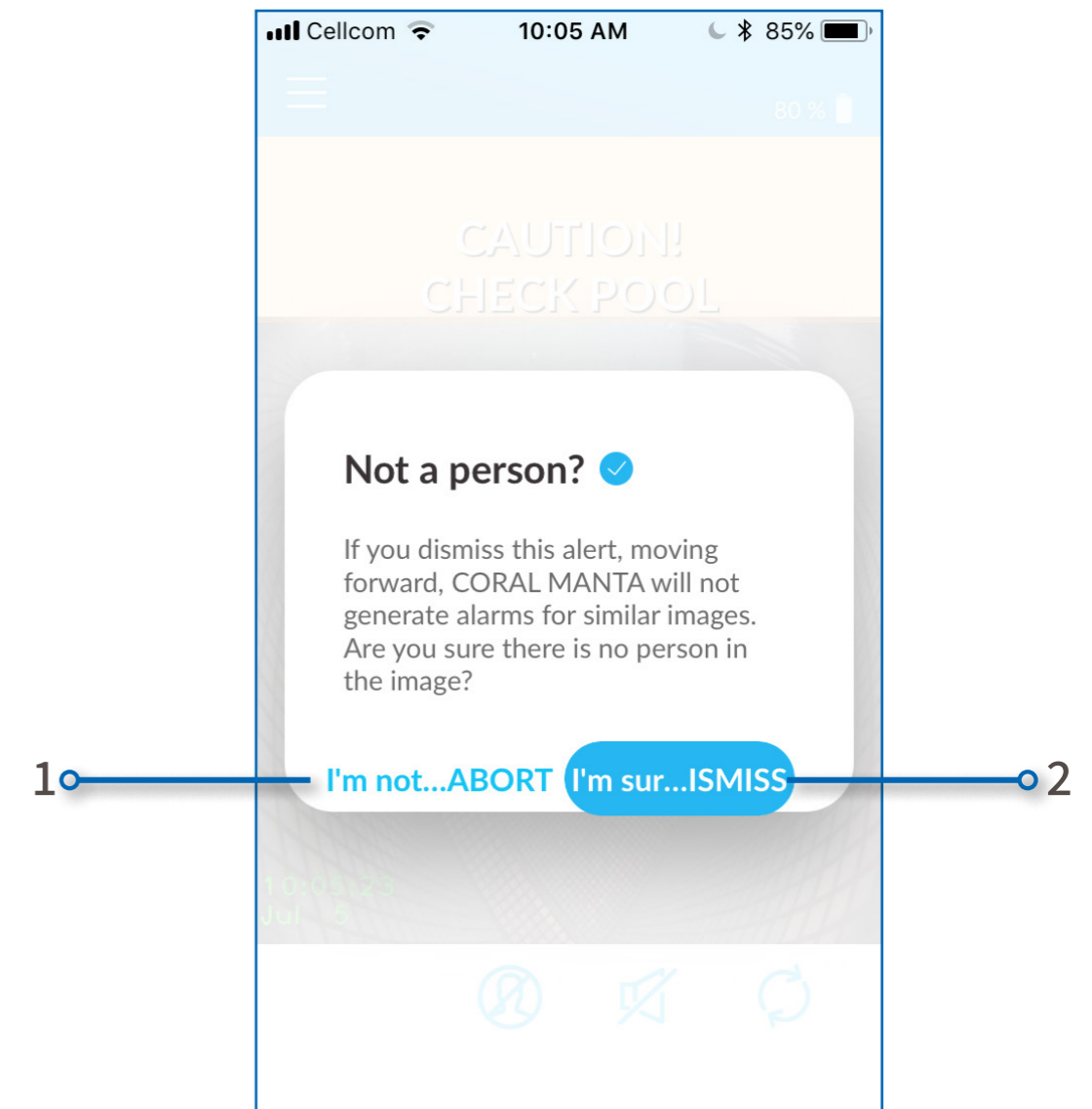


MENU

[INTRODUCTION](#)
[FIRST INSTALLATION](#)
[ROUTINE OPERATION](#)
[MAINTENANCE](#)
[TROUBLESHOOTING](#)
[SPECIFICATIONS](#)


Once tapping the False Alarm button, a confirmation message appears on the screen with the following buttons:

- **I'M NOT SURE, ABORT (1)** – tap if you are unsure this image is a false alarm, and you do not want the system to learn to ignore similar images in the future.
- **I'M SURE, DISMISS (2)** – tap if you are sure this image is a false alarm. This action teaches CORAL MANTA to ignore any alarms generated from similar images in the future.



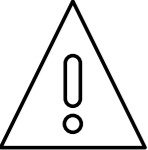
MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

Maintenance

Pool Water Clarity

Make sure the water in the pool is as clear as possible. To check the clarity of the water, check the camera image or go into the pool with goggles to spot objects in the other end of the pool.

	CAUTION:
	Keep the water in the pool as clear as possible according to best practice instructions. Verify that the camera video footage is clear and that details on the far end of the pool can be viewed clearly.

MENU

[INTRODUCTION](#)

[FIRST INSTALLATION](#)

[ROUTINE OPERATION](#)

[MAINTENANCE](#)

[TROUBLESHOOTING](#)


[SPECIFICATIONS](#)



Battery Replacement

To replace the battery:

1. Remove the old battery from the pool unit.
2. Insert the new battery into the pool unit ([see Inserting the Battery on page 27](#)).
3. Fully charge the battery using the pool unit charger ([see Charging the Battery on page 28](#)).

	CAUTION:
	Replace with a battery supplied by the manufacturer only.

MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

Storing the System

To store the pool unit:

1. Disconnect the pool unit charger and remove the battery.
2. Lift the pool unit off the docking station by holding both sides with both hands.
3. Verify that the pool unit is dry and clean.
4. Cover the underwater tube end with the provided protective cover.
5. Fold the underwater tube.
6. Place the folded pool unit in the original package.

MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

SIM Replacement

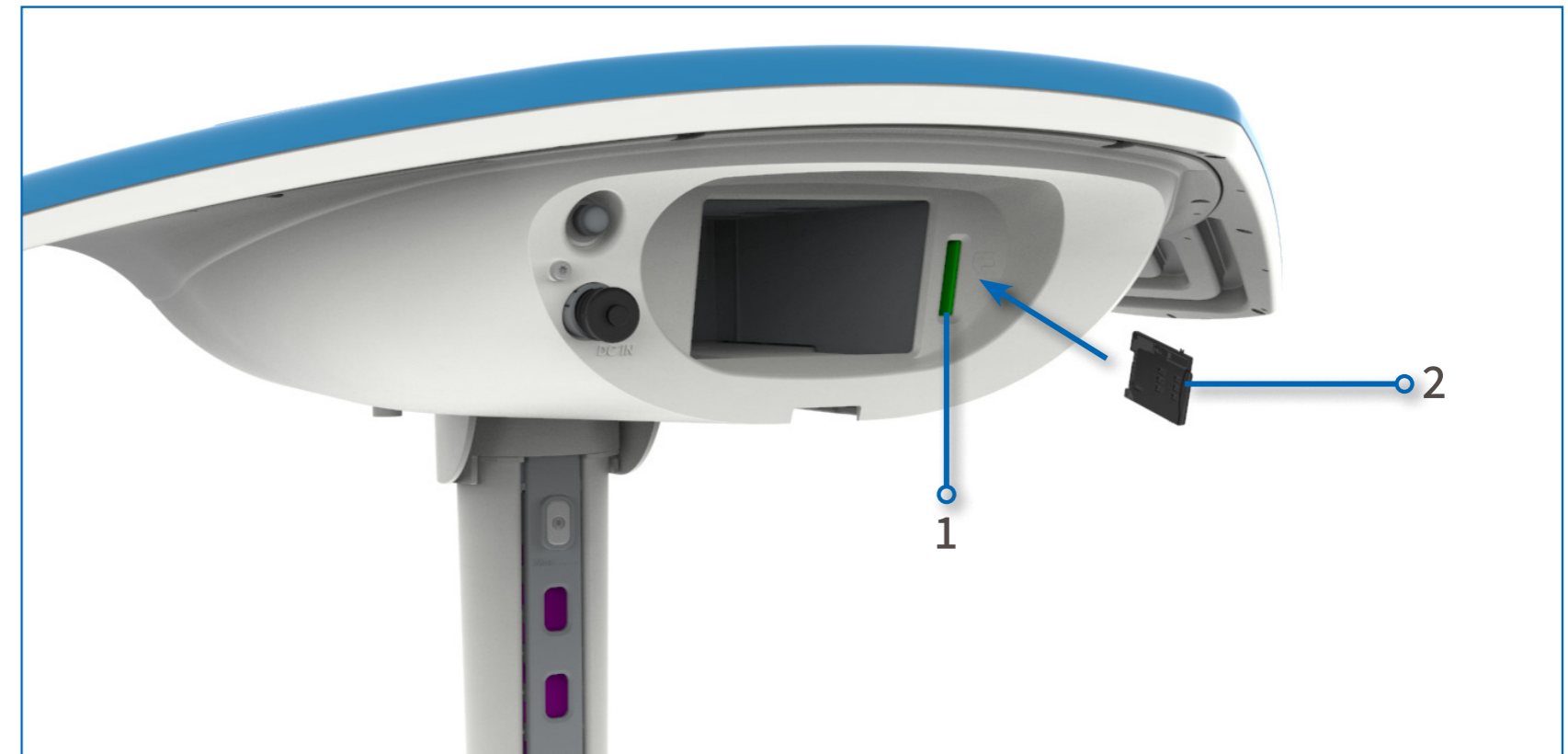
**NOTE:**

CORAL MANTA includes an integrated SIM card. This procedure is applicable only for customers who purchased CORAL MANTA without an integrated SIM card.

To remove the SIM card:

1. Pull out the batter pack.
1. Gently press on the SIM card.
2. Pull the SIM card out.

To place a new SIM card, verify correct orientation and push the card (2) into the slot (1).

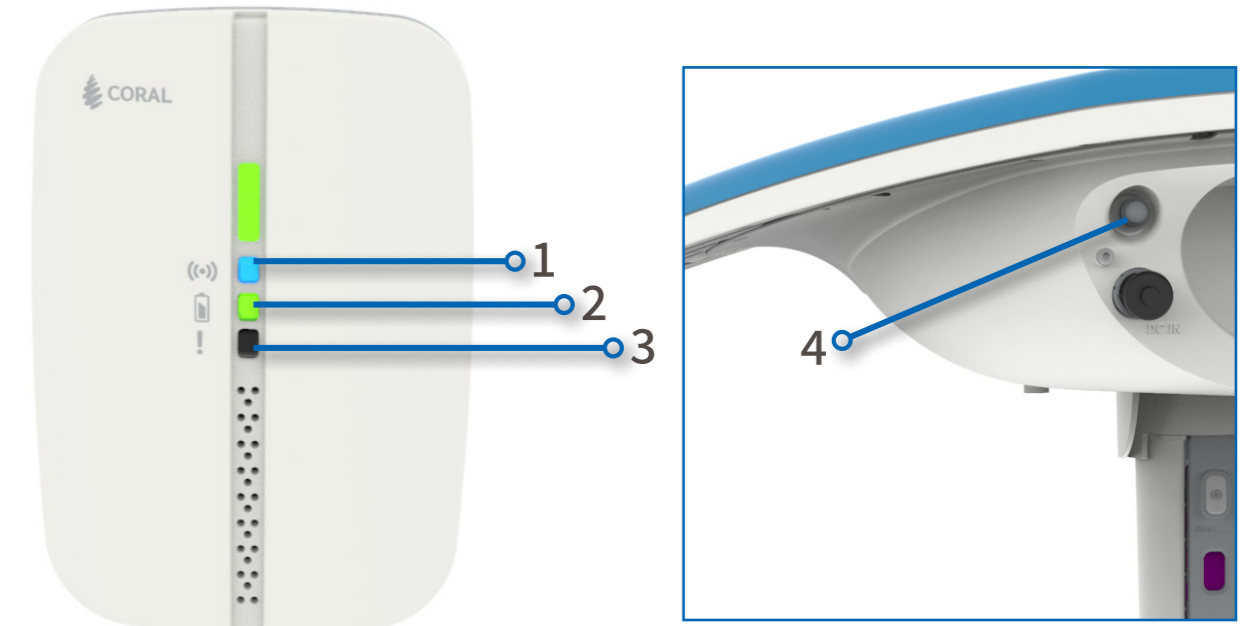


MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

Troubleshooting

INDICATION	DESCRIPTION	RESOLUTION
Water visibility indicator (3) is steady yellow.	There is some degradation in visibility that can be caused by a water clarity issue or from something partly obscuring the camera view.	Check water clarity (see Pool Water Clarity on page 43).
Water visibility indicator (3) is steady red.	There is a significant visibility problem caused by water clarity issue or by something obscuring the camera view.	Check water clarity (see Pool Water Clarity on page 43).
Battery level indicator is blinking green.	Battery is partially charged.	Charge the battery (see Charging the Battery on page 28).
Battery level indicator (2) is steady red.	Battery charge is below critical level.	Charge the battery (see Charging the Battery on page 28).
Communication indicator (1) blinks blue quickly.	Communication Issue.	Check SIM card Internet package. Verify communication to mobile device.
All LED indicators blink red.	Operation fault, such as analytics fault or the system cannot start.	Press the reset button (4). If the issue reoccurs, contact customer support.



MENU

INTRODUCTION

FIRST INSTALLATION

ROUTINE OPERATION

MAINTENANCE

TRoubleshooting

SPECIFICATIONS



Specifications

PARAMETER	POOL UNIT	HOME UNIT
Dimensions	Open: 690x450x500 [mm]	N/A
	Folded: 690x450x200 [mm]	115x80x45 [mm]
Weight	5.8 [Kg] (13 lbs)	0.2 [Kg] (0.4 lbs)
Solar system	Operational at fully sunny days	N/A
Supply voltage	12V external power supply (backup)	100-240 VAC
Connectivity	G3 Data MODEM	
	RF Point to Point > 200 ft.	RF Point to Point > 200 ft.
LED indicators (see Indicators on page 10)	Pool activity indicator	
	Communication indicator (full/medium/low)	
	Battery level indicator (full/medium/low)	
	Water visibility indicator (yes/no)	
Alerts	Siren (low, medium, high)	Siren (low, medium, high)
Controls	Dismiss alarm	
IP level	IP65 for out of water parts	
	IP67 for underwater tube	
Operating temperature	10~40 deg	10~40 deg

MENU

[INTRODUCTION](#)
[FIRST INSTALLATION](#)
[ROUTINE OPERATION](#)
[MAINTENANCE](#)
[TROUBLESHOOTING](#)
[SPECIFICATIONS](#)


Compliance with FCC Rules

Coral Manta 3000 complies with FCC rules Part 15.

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 does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

This device complies with Part 15 of the FCC Rules and Industry Canada licence-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.

MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

**WARNING:**

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC Rules.

The distance between user and products should be no less than 20cm

**WIRELESS NOTICE:**

This device complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the ISED radio frequency (RF) Exposure rules. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

MENU

INTRODUCTION

FIRST INSTALLATION

ROUTINE OPERATION

MAINTENANCE

TROUBLESHOOTING




SPECIFICATIONS





Labeling

- i. FCC ID: 2ARX8-MANTA3000
- ii. Contains FCC ID: RI7HE910GL

POOL UNIT LABEL

Product Name: Coral Manta	 <p>Made in Israel Coral Detection Systems Kibbutz Hahotrim Haifa 3087000 ISRAEL FCC ID:2ARX8-MANTA3000 Contains FCC ID:RI7HE910GL</p> 
Model Name : 3000	
Pool Unit 24V 	
Serial Number: _____	
Production Date: _____	

HOME UNIT LABEL

Product Name: Coral Manta	 <p>Made in Israel Coral Detection Systems Kibbutz Hahotrim Haifa 3087000 ISRAEL</p> 
Model Name : 3000	
Home Unit 100-240 Vac	
Serial Number: _____	
Production Date: _____	

MENU

INTRODUCTION

FIRST INSTALLATION

ROUTINE OPERATION

MAINTENANCE

TROUBLESHOOTING

SPECIFICATIONS



SDoC

We Coral Detection Systems Ltd. declare:

- **Type of equipment:** Video based Drowning detection system for residential swimming pools.
- **Brand name or trademark:** Coral Detection Systems
- **Product Identification:** Coral Manta 3000xx
- **FCC ID:** 2ARX8-MANTA3000

APPLICABLE COMPLIANCE STATEMENTS:

- **Modular 1, Telit Modem HE910-GL:** Contains FCC ID RI7HE910GL
- **Country of origin:** Israel
- **Manufacturer:** Coral Detection Systems
- **Responsible Party name (IN USA):** Eyal Golan
- **Address:** 11022 Santa Monica Blvd # 120, Los Angeles, CA 90025
- **Telephone:** +972-54-6699439
- **Internet E-Mail:** eyal@coraldrowningdetection.com

MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

STANDARDS APPLIED:

- FCC Part 15B - For Unintentional radiators
- FCC Part 15C- For Intentional radiators

Test reports/ certificates issued by: GTS

As manufacturer/ manufacturer's authorized representative within the USA, we declare under our sole of responsibility that the equipment follows the provisions of FCC Equipment Authorization Procedures under CERTIFICATION (47 CFR Section 2.907) and / or SUPPLIER'S DECLARATION OF CONFORMITY (47 CFR Section 2.906) as stated above.

This device complies with related rules, operation is subject to the following two conditions.

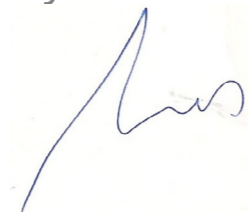
1. This device may not cause harmful interference and,
2. This device must accept any interference received, including interference that may cause undesired operation

Thus, is placed on the product.

Date of issue: December, 04, 2018

Place of issue: Haifa, Israel

Eyal Golan



Coral Detection Systems Ltd

קודל מערכות זיהוי בע"מ
CORAL DETECTION SYSTEMS LTD
515600336 .מ.ח

MENU[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)

Revision History

REVISION	DESCRIPTION OF REVISIONS	CHANGED BY	DATE/SIGN
Rev A	Initial Release	Eyal G.	06/19/18
Rev B	Teaching the System section added	Eyal G.	12/20/18

MENU

[INTRODUCTION](#)[FIRST INSTALLATION](#)[ROUTINE OPERATION](#)[MAINTENANCE](#)[TROUBLESHOOTING](#)[SPECIFICATIONS](#)



THANK YOU!

Copyright © 2018 Coral Detection Systems, all rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical or otherwise without prior written permission of Coral Detection Systems.