CORAL

DETECTION SYSTEMS

CORAL MANTA
User Guide

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Contact Information

For help with this device, please contact Coral Detection Systems at:

Website	E-mail	Facebook
www.coraldrowningdetection.com	info@coraldrowningdetection.com	www.facebook.com/CoralDrowningDetection

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CORAL MANTA | User Guide Rev B | Doc P/N: CORAL MANTA 3000

Preface

Safety Instructions

- **CORAL MANTA does not replace adult supervision.**

- The connection to the pool unit should be consistent with the local and national wiring rules (electrical code).

- Only use the pool unit charger supplied with the system.

⚠	WARNING:
	A Ground Fault Current Interrupter (GFCI-USA) or a Residual Current Device (RCD-EUROPE) must be installed to protect your electric outlet and prevent any possible electric shock.

- CORAL MANTA requires a direct line-of-sight to the entire pool, and has a maximum view angle of 90°.

- CORAL MANTA operation is optimal in pools of up to 10 yards long.

- Keep the pool water as clear as possible according to best practice (consult with a pool service professional).

- Verify that the images retrieved from the camera are clear and that details on the far end of the pool can be viewed clearly.

- CORAL MANTA requires direct sunlight in order to charge its battery using the built-in solar panels.

- CORAL MANTA is another layer of safety and does not replace other pool safety means or devices required by local city/state/country laws.

- CORAL MANTA uses computer vision technology to detect drowning. Depending on various factors, some drowning events might not be detected.

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- CORAL MANTA uses cellular (GSM) communication to transfer alerts, warnings, and notifications as well as images from the pool unit to your paired devices using secured servers in the cloud.

- Communication to the paired devices depends on the quality of the cellular network and might sometimes be degraded or slowed down based on signal quality.

- The drowning detection function is not dependent on cellular communication. It works locally, without cellular communication, by sounding the alarms in the pool unit and home unit.

- The home unit must be plugged into a power outlet inside the house, as close as possible to the pool unit. Make sure the home unit can be clearly seen and heard inside the home at all times (e.g. when there is background noise, music, people talking, or working electrical appliances).

- **ADULT SUPERVISION IS REQUIRED AT ALL TIMES.**

NOTE:
Do not Install the pool unit in a shady location. The solar panels must be exposed at all times. Remove any foreign objects covering the solar panels.

Disclaimers

- Using CORAL MANTA is subject to the acceptance of the "Terms of Use" and "Privacy Policy".

- Setting up and installing CORAL MANTA indicates your acceptance of the "Terms of Use" and "Privacy Policy".

- If you do NOT accept the "Terms of Use" and "Privacy Policy" please contact us to arrange a refund and return shipment.

- Activating CORAL MANTA requires pairing it with a the Coral Drowning Detection app (using the app is mandatory only for activating the system).

NOTE:
The shape and position of the pool may effect system performances. Verify that the pool shape is suitable (see Selecting Mounting Position on page 21) and that the pool unit is installed in the proper place (see Mounting the Docking Station on page 23).

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Introduction

This chapter provides an overview of the system and includes:

- [System Layout](#)
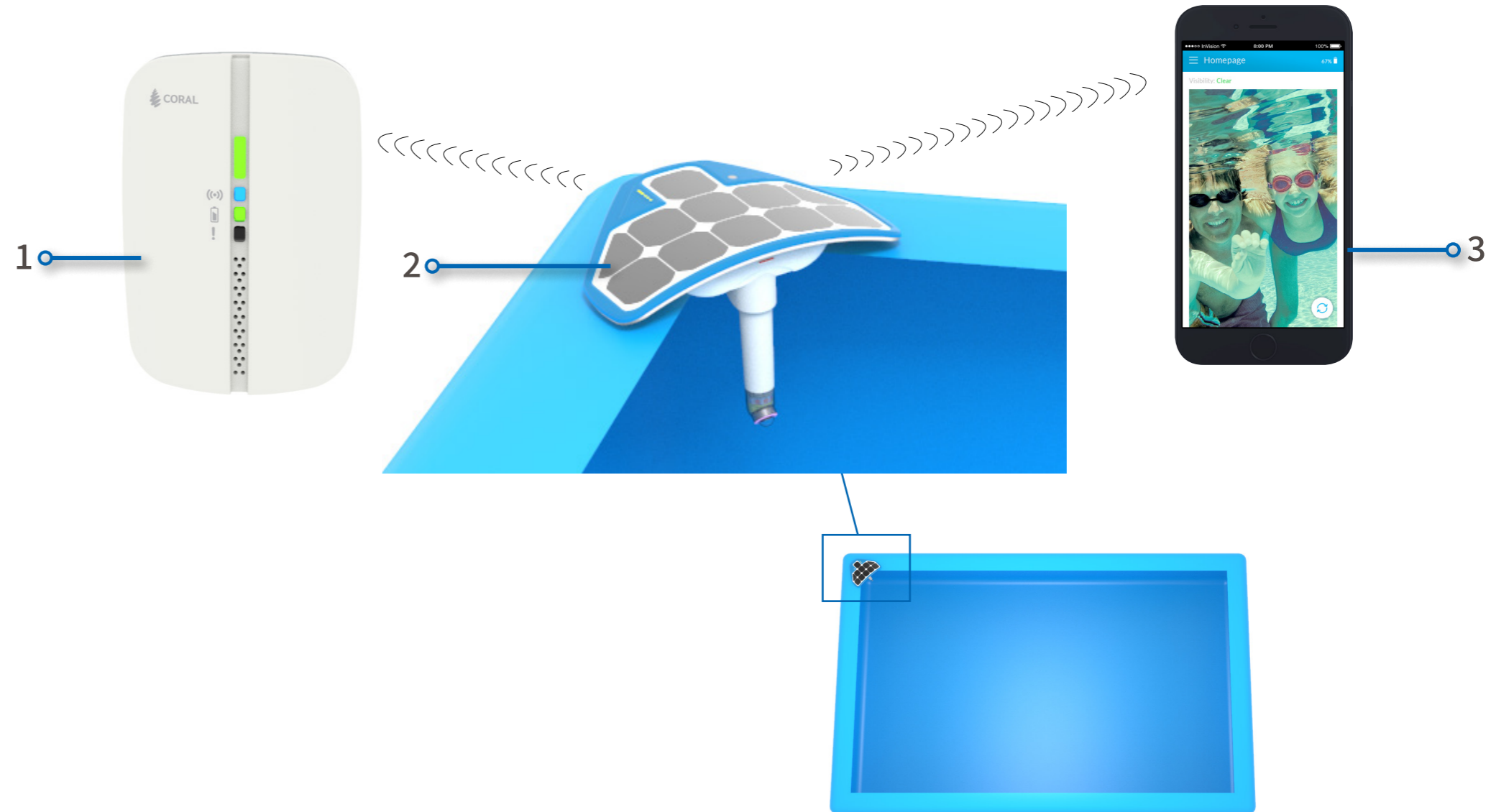- [Pool Unit](#)
- [Home Unit](#)

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System Layout

CORAL MANTA is programmed to detect people in the pool, their position and motion. It constantly analyzes the images that are captured by the underwater camera. Whenever it detects a near-drowning event it generates an alarm. CORAL MANTA also learns based on the image analysis and attempts to automatically ignore alerts which are false alarms.

CORAL MANTA includes the following:

- **Pool Unit (2) –** mounted on a corner of the pool, includes a video camera, and generates alerts according to the scenario identified in the pool (see Detection Scenarios on page 31). The pool unit transmits alerts to the home unit (1) and to the mobile device (3) as needed.

- **Home Unit (1) –** connected to a power outlet in the house, communicates with the pool unit over RF (direct) communication, and provides audio and visual indication of the alerts received from the pool unit.

- **Mobile Application –** Coral Drowning Detection mobile application, installed on a mobile device (3), provides alerts, system status notifications and allows for remote monitoring.
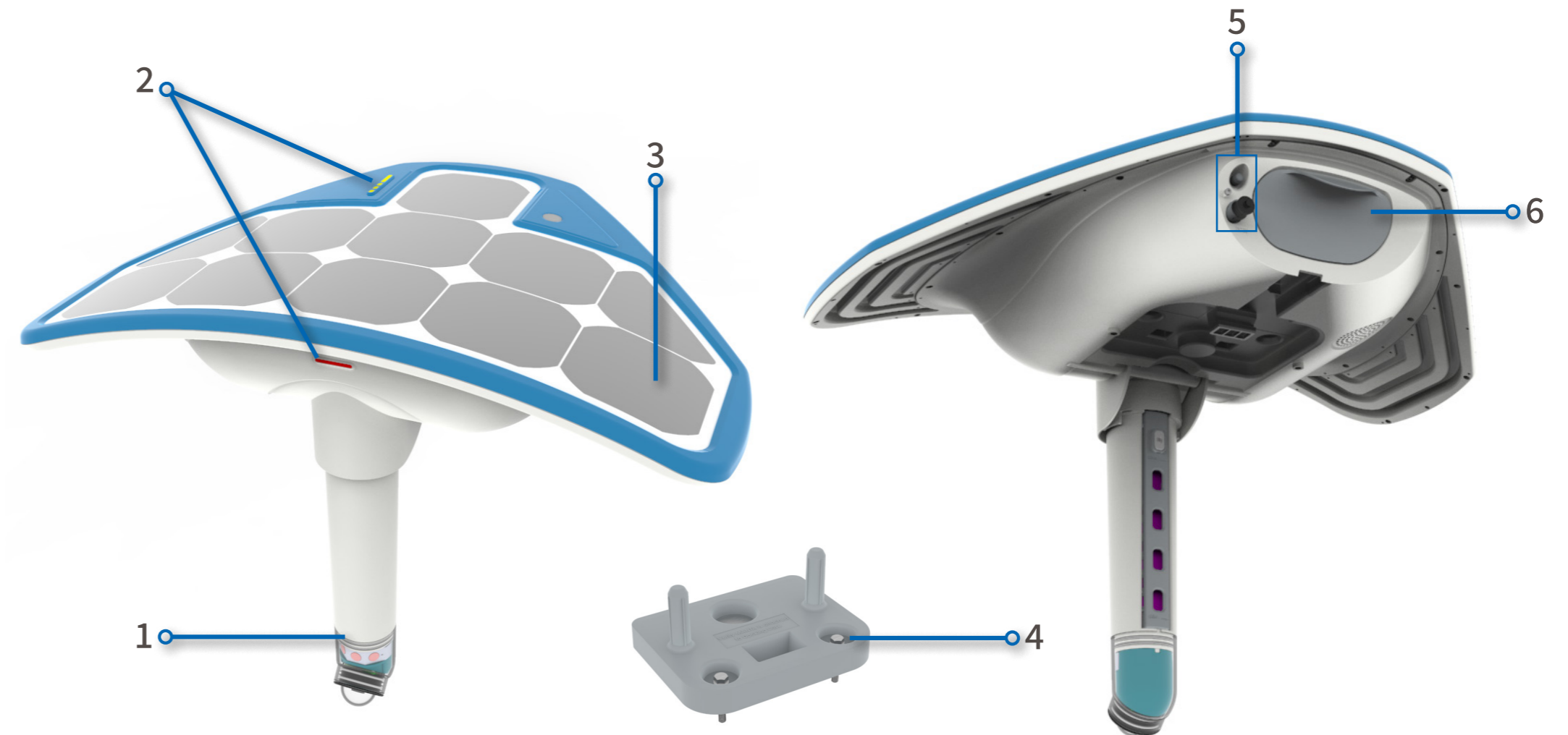
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Pool Unit

OVERVIEW

The pool unit includes the following:

- Underwater Tube (1)
- Indicators (2)
- Solar panel (3)
- Docking station (4)
- Connectors (5)
- Battery (6)

UNDERWATER TUBE

A folding tube holds the camera and the activity sensor under the water.

The underwater tube includes the following:

- **Underwater camera (6) –** a built-in underwater video camera that captures real-time video and has a maximum view angle of 90°

- **Activity sensor (4) –** provides indication of the water level in the pool and senses activity in the pool

- **Camera illumination (5)**

NOTE:
The underwater tube is folded and unfolded using an axle (1). When folded, a magnet (3) connects to a metal plate (2) to secure the folded tube.
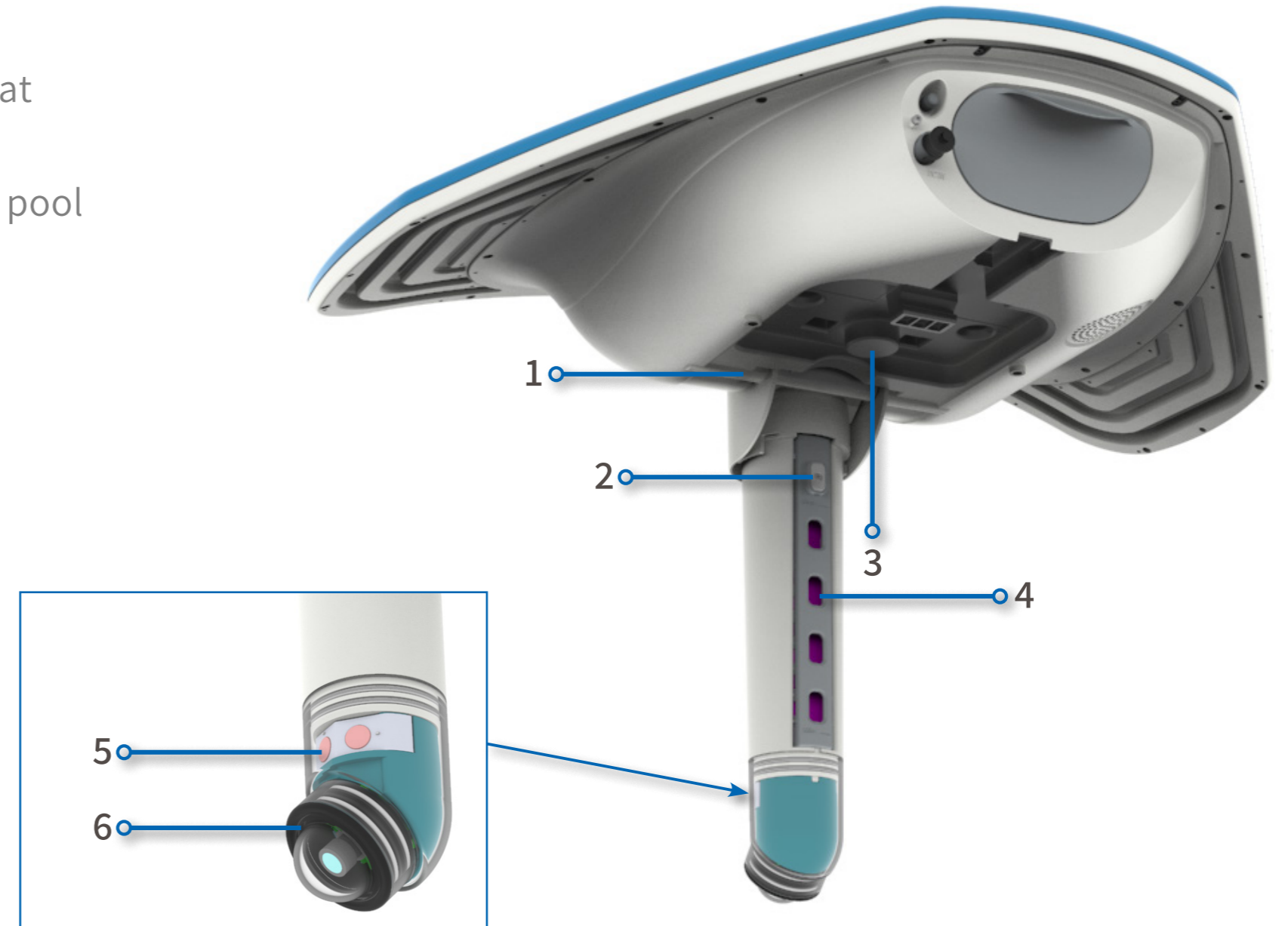
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INDICATORS

The pool unit includes the following indicators:

Pool Activity Indicator

The pool activity indicators (4, 5) provide visual indication of the different scenarios in the pool .

Water visibility indicator

The water visibility indicator (1) provides the following indications of water clarity:

- **Off –** clear water
- **Steady yellow –** there is some visibility degradation
- **Steady red –** there is a significant visibility degradation

Battery Level Indicator

The pool unit battery level indicator (2) provides the following indications:

- **Steady green –** battery is fully charged
- **Blinking green –** battery is partially charged
- **Steady red –** battery charge is below critical level - charge immediately
- **Blinking yellow –** battery is charging
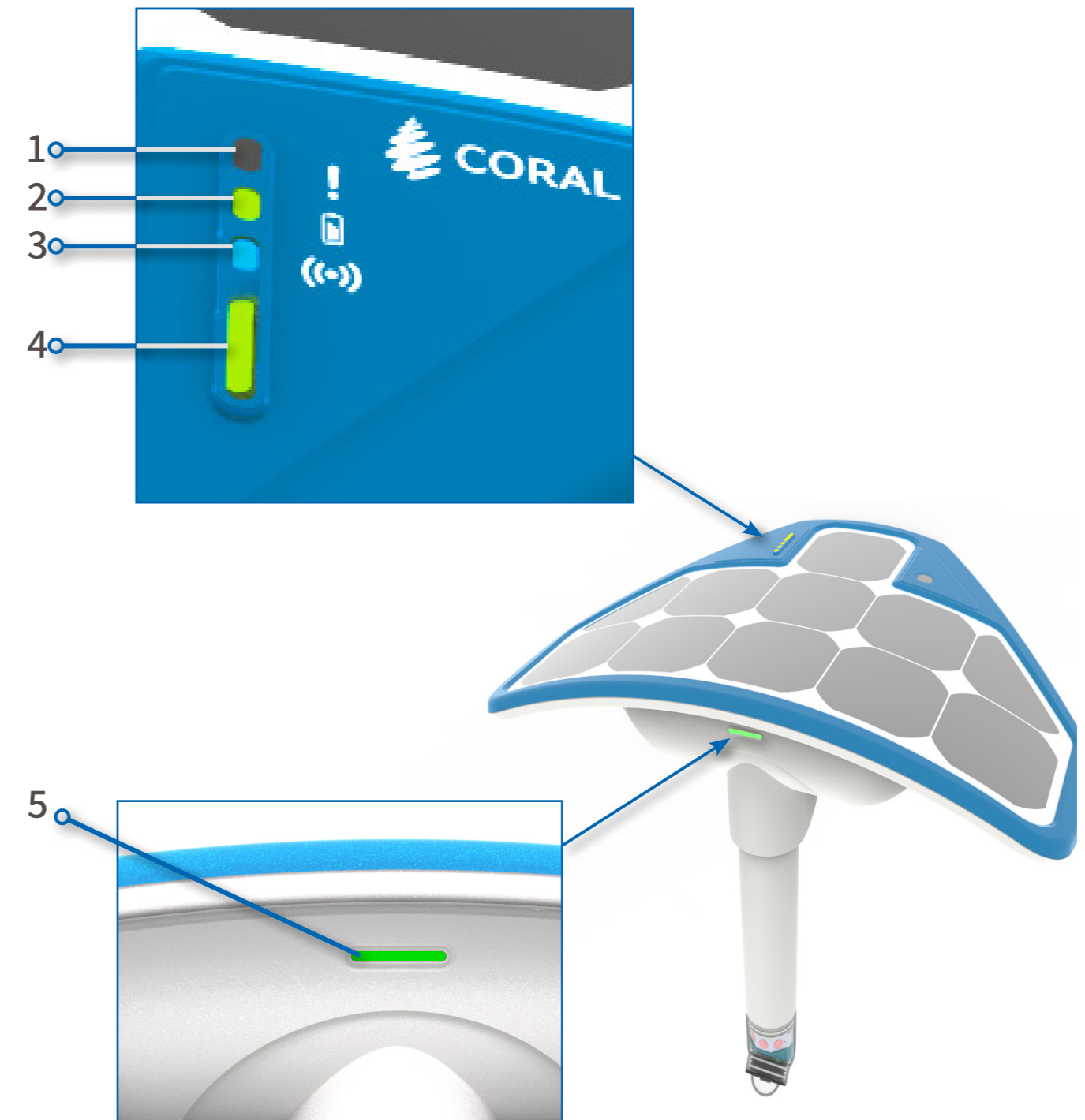
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Communication Indicator

The communication indicator (3) provides the following indications of connectivity:

- **Steady blue –** the pool unit is connected to the Internet

- **Blinking blue –** no Internet connection in the pool unit

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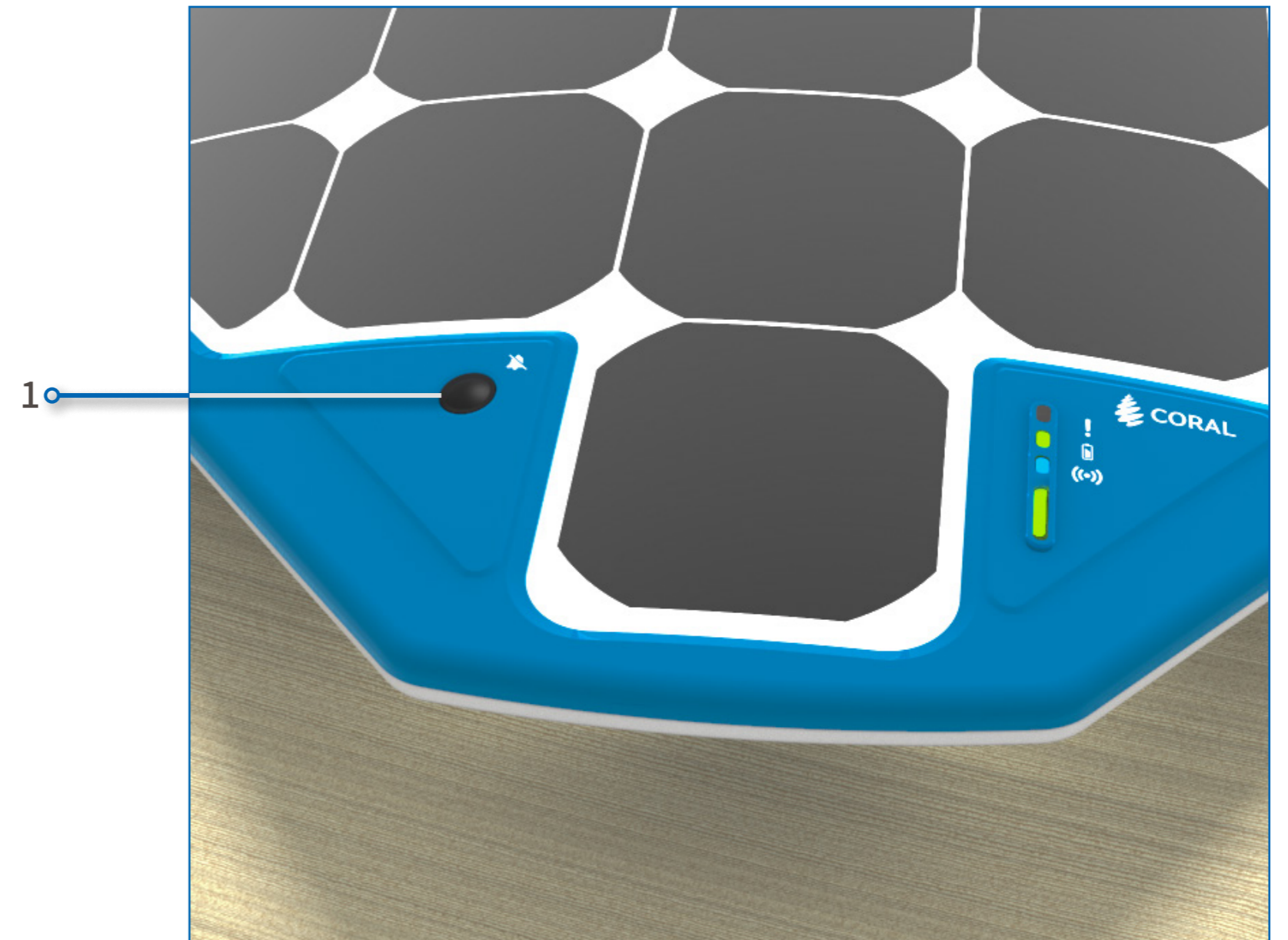INTRODUCTION   FIRST INSTALLATION   ROUTINE OPERATION   MAINTENANCE   TROUBLESHOOTING   SPECIFICATIONS

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DISMISS BUTTON

When the alarm is on, the dismiss button (1) is used to silence the alarm.

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CONNECTORS

The pool unit includes the following connectors:

- **DC IN (3) –** for charging the battery

	NOTE:
	When no DC power is connected, the protection cap (2) must cover the socket.

- **System reset button (1)**

- **SIM card slot (4) –** enables communication with the mobile application (applicable only for users who purchased CORAL MANTA without an integrated SIM card)
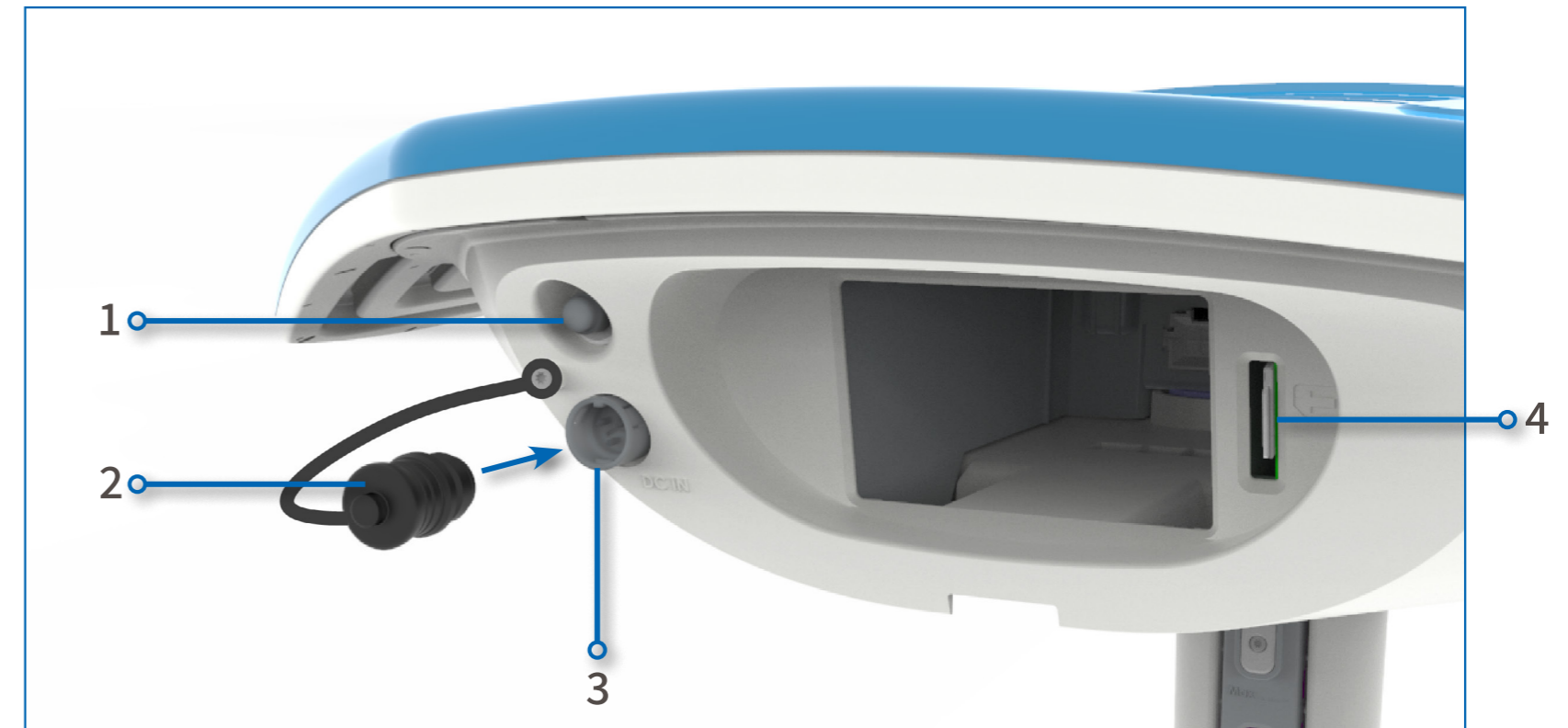
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SOLAR PANEL

The pool unit is charged by a set of solar cells (1).

NOTE:
Do not Install the pool unit in a shady location. The solar panels must be exposed at all times. Remove any foreign objects covering the solar panels.

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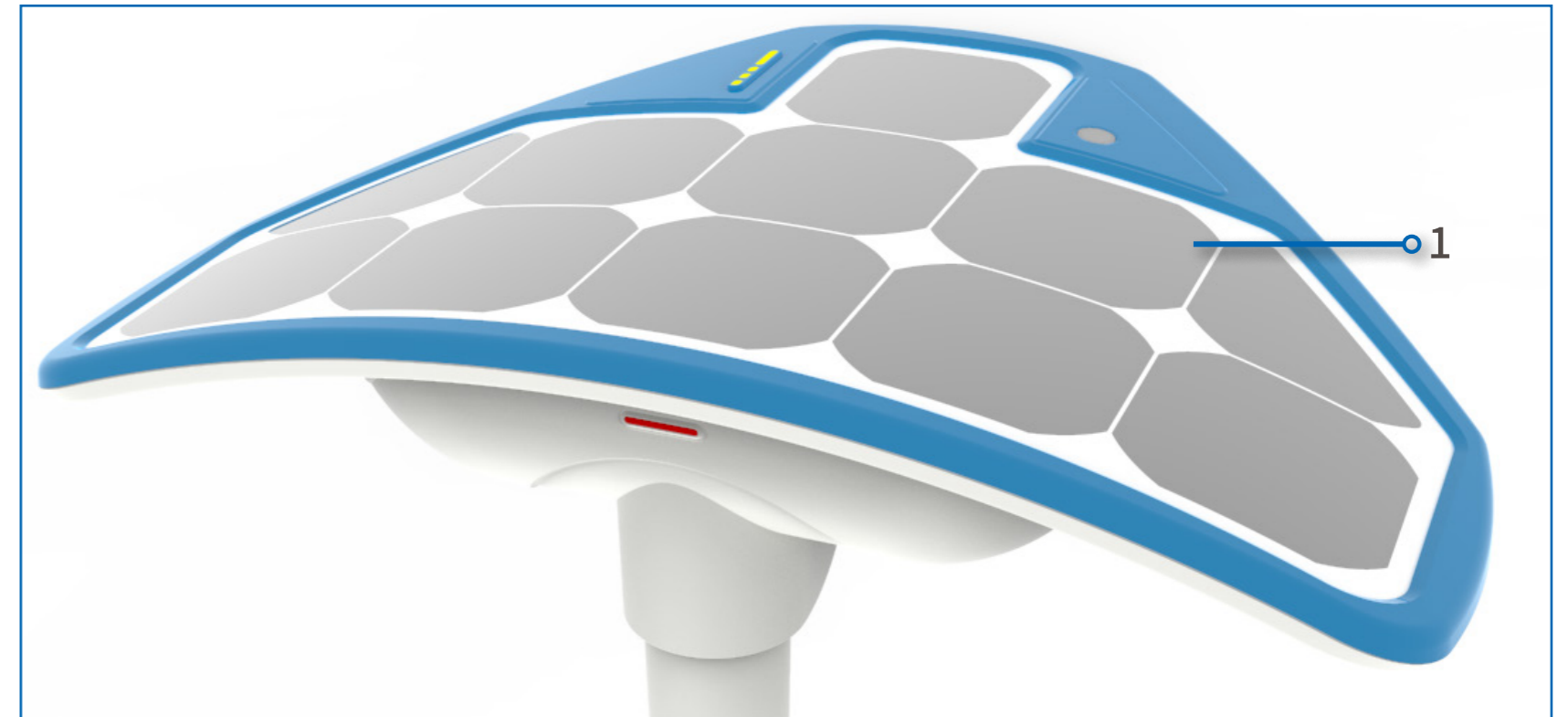
BATTERY

The battery (1) is located in the pool unit and is charged using the Solar panel or using the pool unit charger (see Charging the Battery on page 28). The connector (2) of the battery connects to the battery port in the pool unit. The battery handle (3) is used to pull the battery out of its socket.

The battery level is indicated by the Battery Level Indicator on the pool unit as well as on the home unit.

DOCKING STATION

The docking station is mounted on a corner of the pool and serves as a base for the pool unit. After first installation of the docking station, the pool unit can be installed or removed quickly. The docking station includes the following:

- **Docking station base (3)**

- **Screws (1) and nuts (5) –** two sets of screws and nuts to secure the docking station to the selected corner of the pool

- **Docking posts (2) –** two posts that support the pool unit

- **Metal plate (4) –** attached to the magnet (6) to secure the pool unit when docked
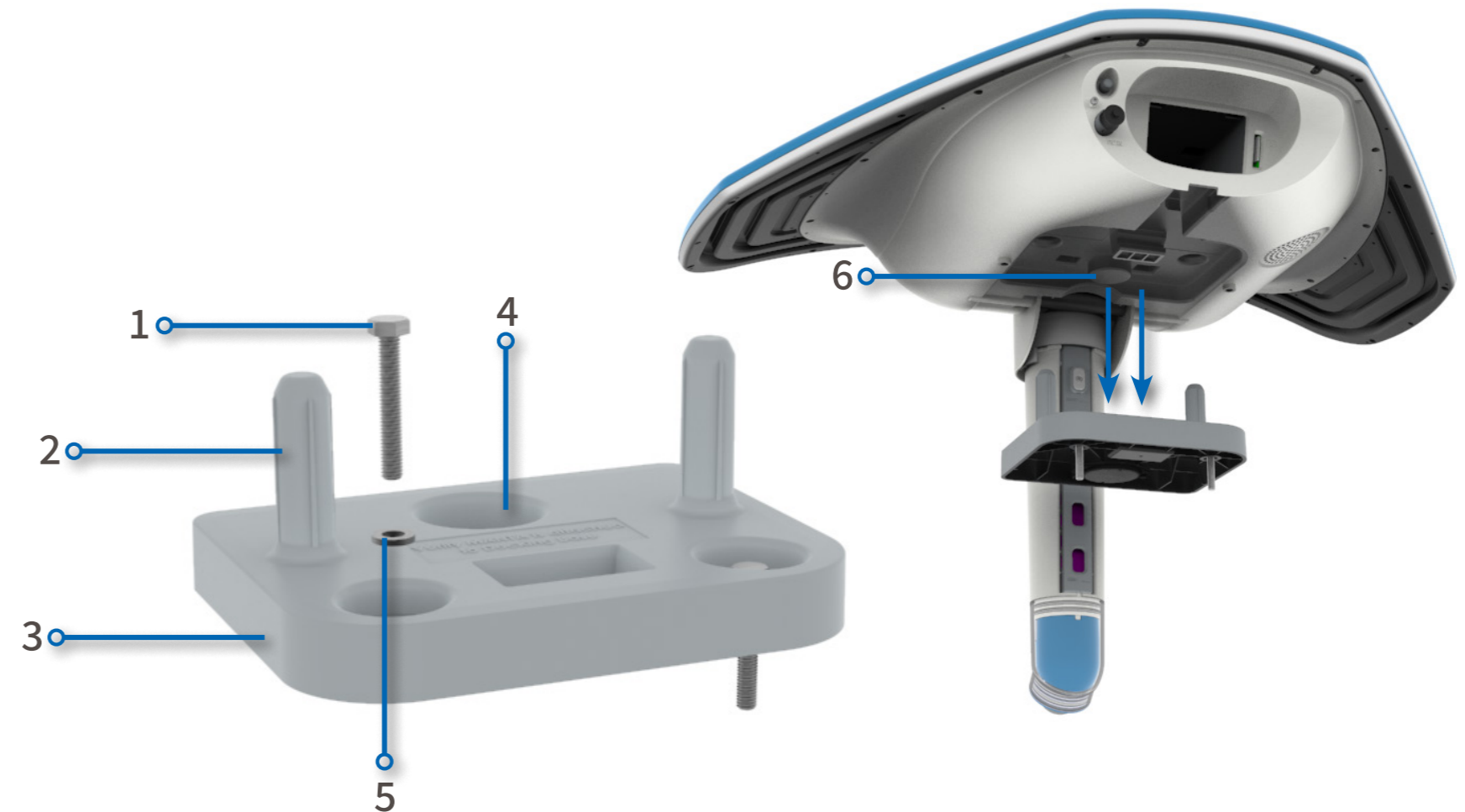
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Home Unit

The home unit is plugged into a power outlet inside the user's house and includes the following:

- **Pool Activity Indicator (2) –** provides visual indication of the different scenarios in the pool (see Detection Scenarios on page 31).

- **LED Indicators (3) –** provide indication of the system operation (connectivity, battery level and visibility). The LED indicators on the home unit function the same as the LEDs located on the pool unit

NOTE:
See section Indicators for a more detailed description of the LED indicators on the pool unit and the home unit.

- **Buzzer (4) –** produces a sound in the following cases:

    Short high pitch buzz – presence in the pool.

    Short loud alarm – first indication of a possible drowning danger.

    Longer loud alarm – drowning danger is apparent.

    Continuous loud alarm – high drowning danger. You must get to the pool immediately to pull the person out of the water.

- **Plug (1) –** connects to a power outlet inside the house
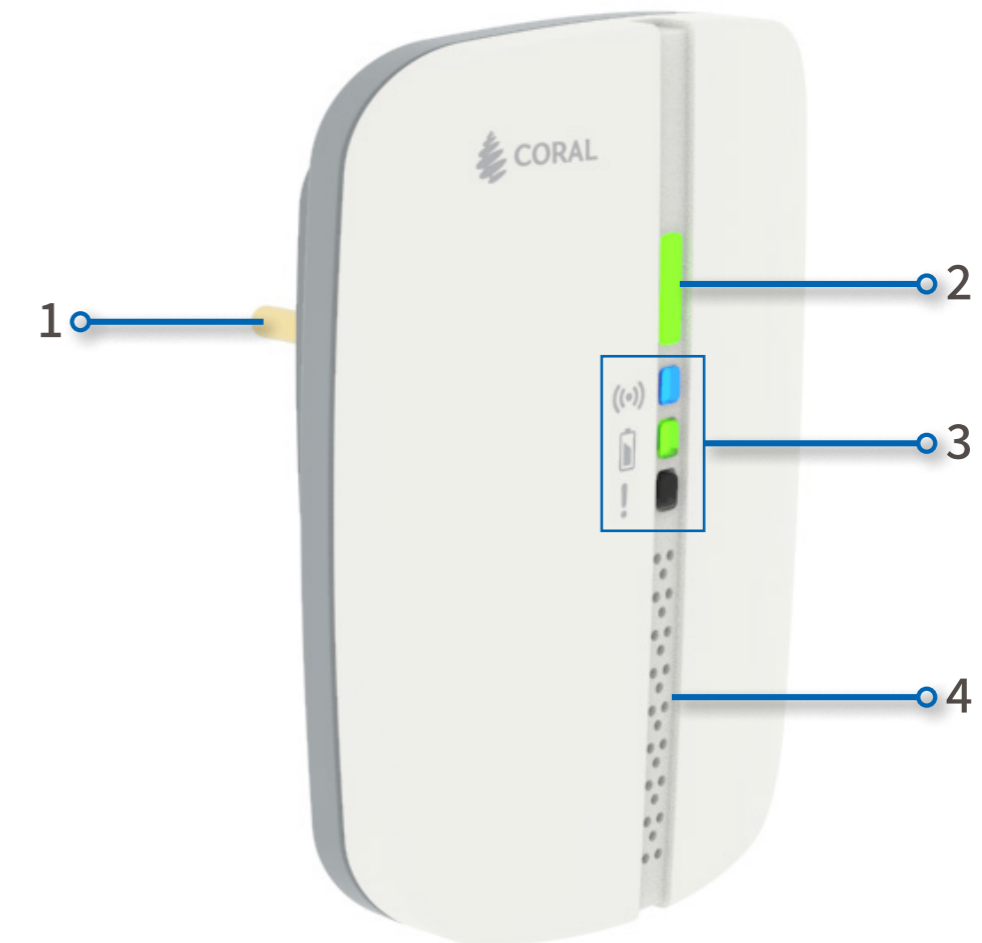
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Mobile Application

Coral Drowning Detection mobile application is available on Google Play Store and on Apple App Store. The mobile application receives alerts from the CORAL MANTA device and produces notifications on the mobile device.

The mobile application also enables the user to retrieve images of the pool, dismiss alerts, and receive notifications of visibility, connectivity, and battery statuses.

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First Installation

This chapter provides installation instructions and includes:
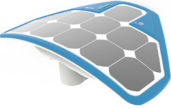
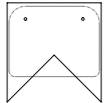- [Opening the box](#)
- [Selecting Mounting Position](#)
- [Mounting the Docking Station](#)
- [Placing the Pool Unit](#)
- [Inserting the SIM Card (Optional)](#)
- [Inserting the Battery](#)
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Opening the box

The CORAL MANTA package includes the following:

	DESCRIPTION	QTY
	Pool unit (folded with a tip protective cover)	1
	Docking station	1
	Battery pack	1
	Home unit	1
	Pool unit charger	1
	Docking station mounting guide sheet	1
	Accessories pack	1
	Quick Start Guide	1

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Selecting Mounting Position

Select the position of CORAL MANTA mounting according to the following guidelines:

- Pool size and dimensions comply with system requirements (see CORAL MANTA website).

- The camera line of sight covers the entire pool area (the underwater camera has a maximum view angle of 90°).

- Shortest distance between the home unit and the pool unit (distance should not exceed 50 yards).

- Mount the pool unit to allow full exposure to sunlight during all or most of the day.

- The docking station mounting screws should be anchored (see Mounting the Docking Station on page 23).
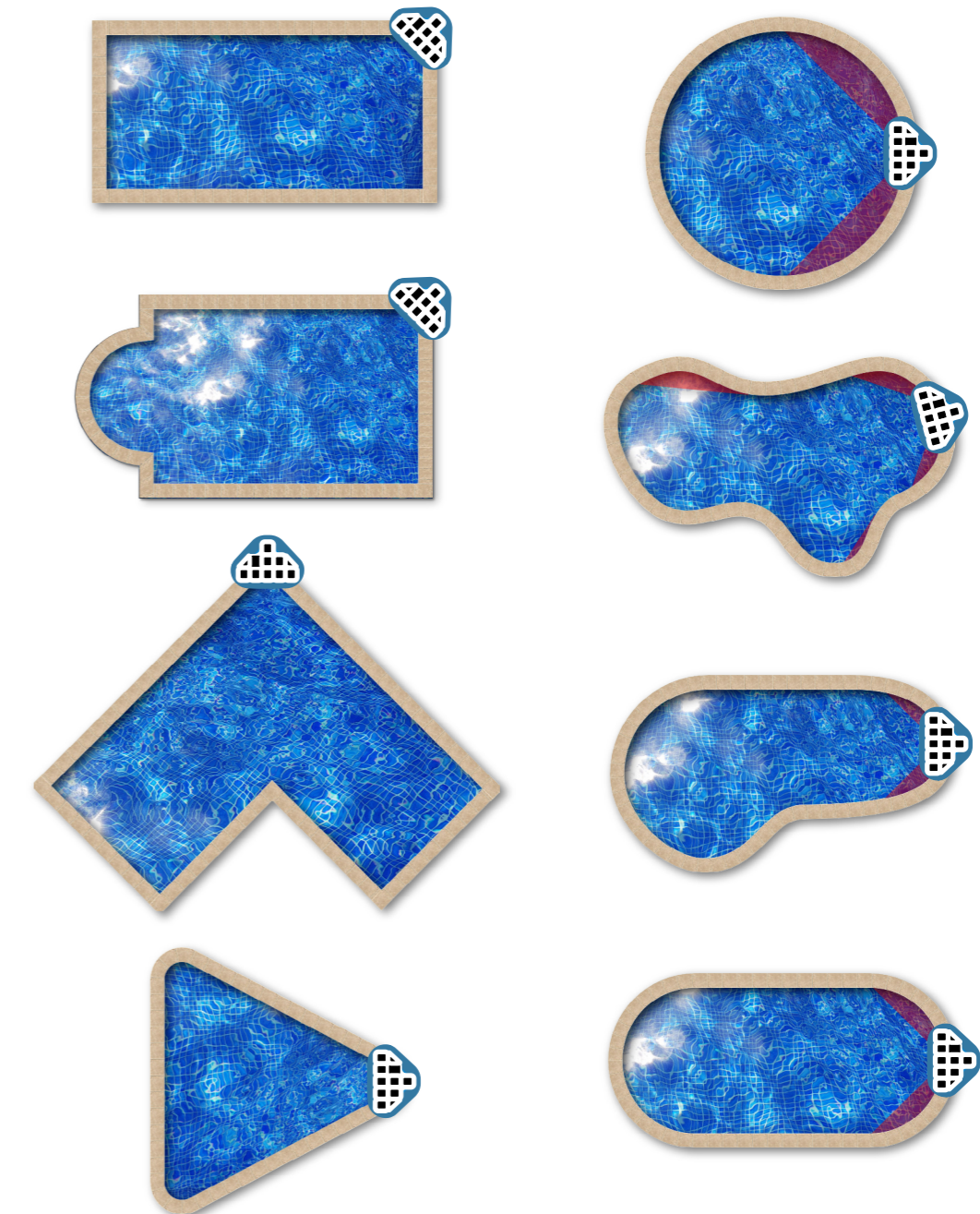
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- Mounting position enables dipping the underwater tube in the water and having the pool water level within the minimum and maximum limits, based on the minimum and maximum marks on the tube.

| NOTE: |
|---|
| The water level in the pool must reach between the top and the bottom marks of the pool activity sensor (1) (see Underwater Tube on page 9). |
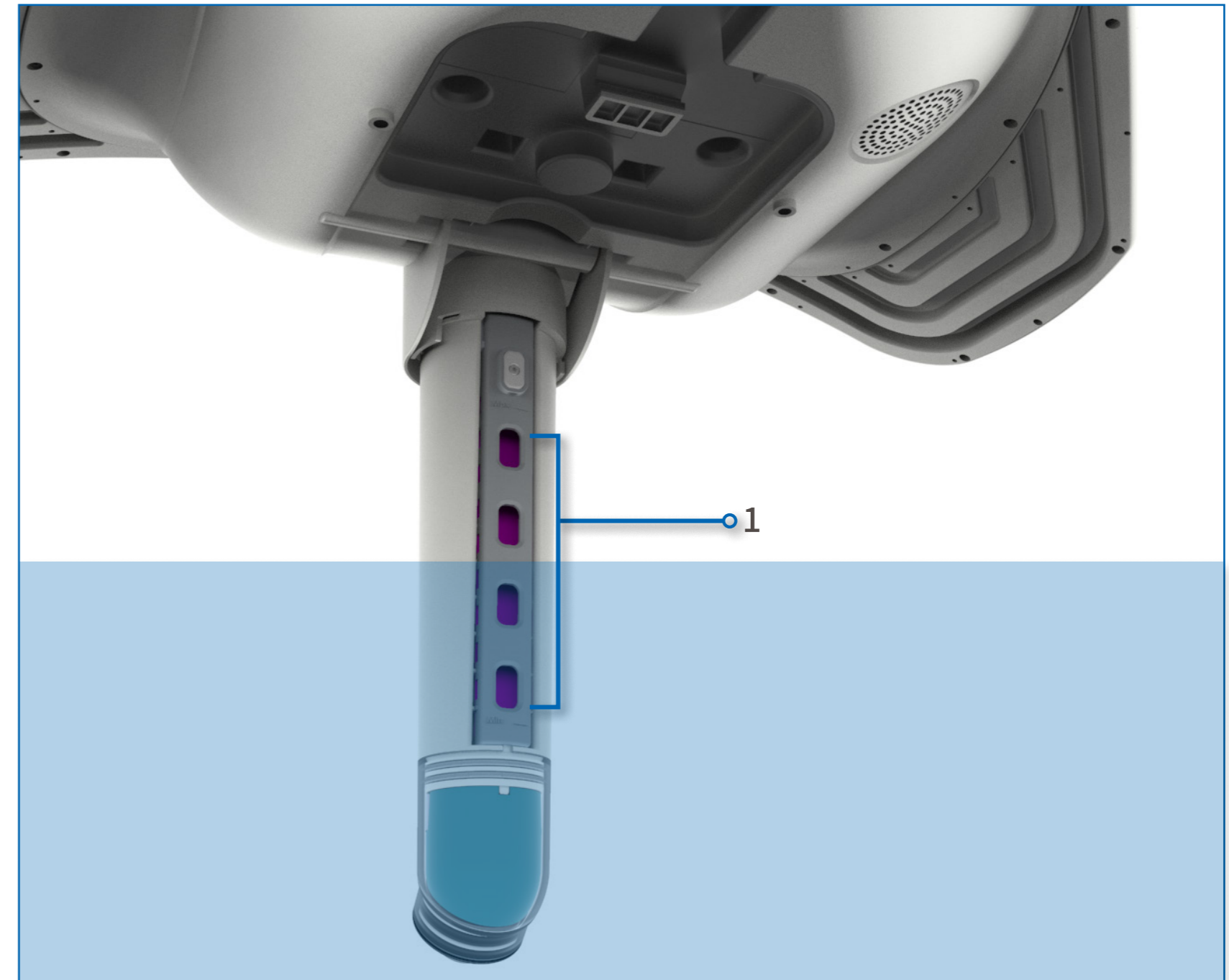
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Mounting the Docking Station

After choosing the optimal location for the pool unit, install the docking station:

1. Place the provided mounting guide (1) in the chosen corner of the pool.

2. Verify that the inner corner (2) of the mounting guide sheet is exactly in line with the corner of the pool (3).

3. Mark the two spots (5) for drilling holes for the screw anchors.

4. Remove the mounting guide (1).

5. Drill (4) two 8mm (⁵⁄₁₆") holes.
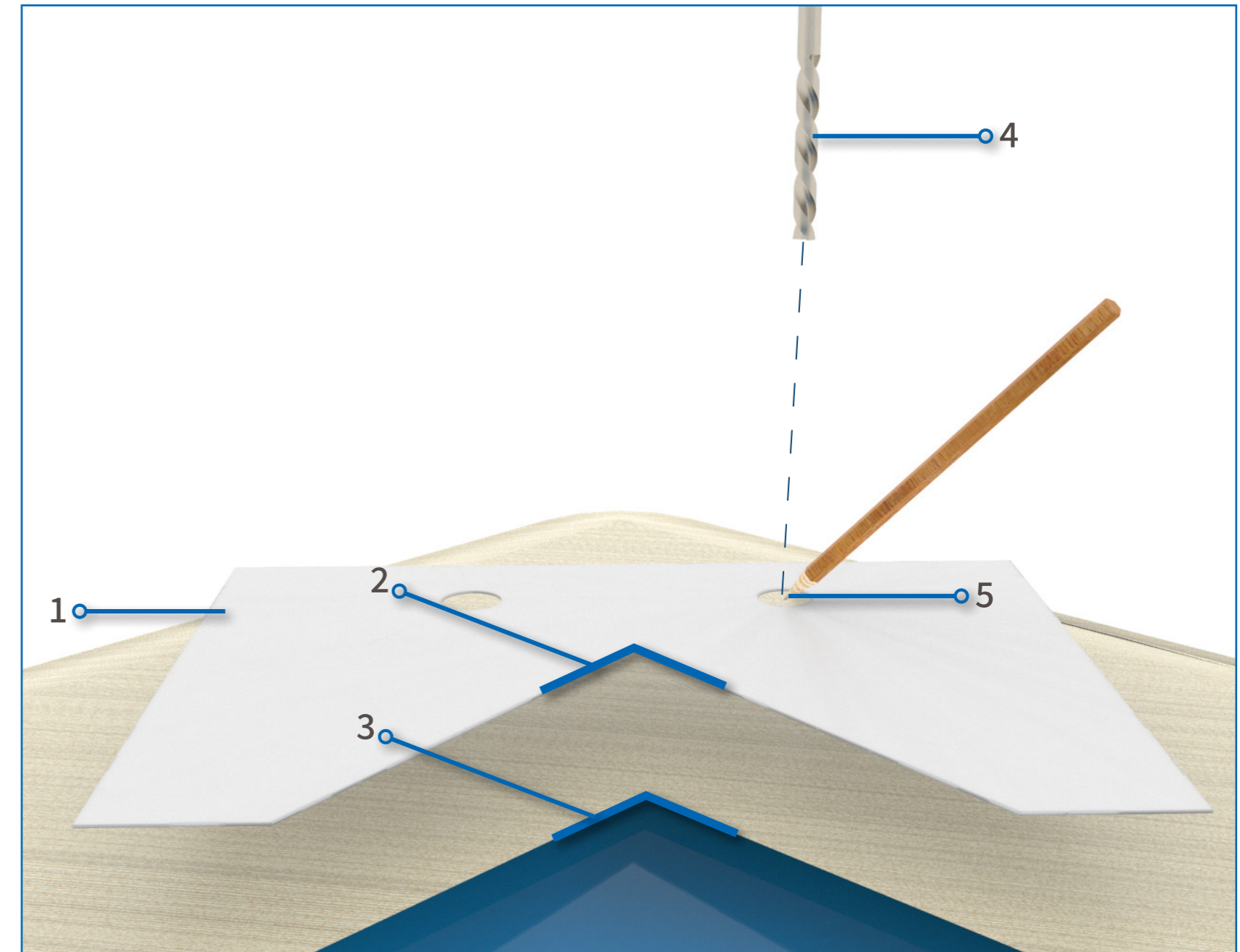
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6. Place two screw anchors (4) in the holes (5).

7. Attach the docking station (3) using two screws (1) and washers (2).
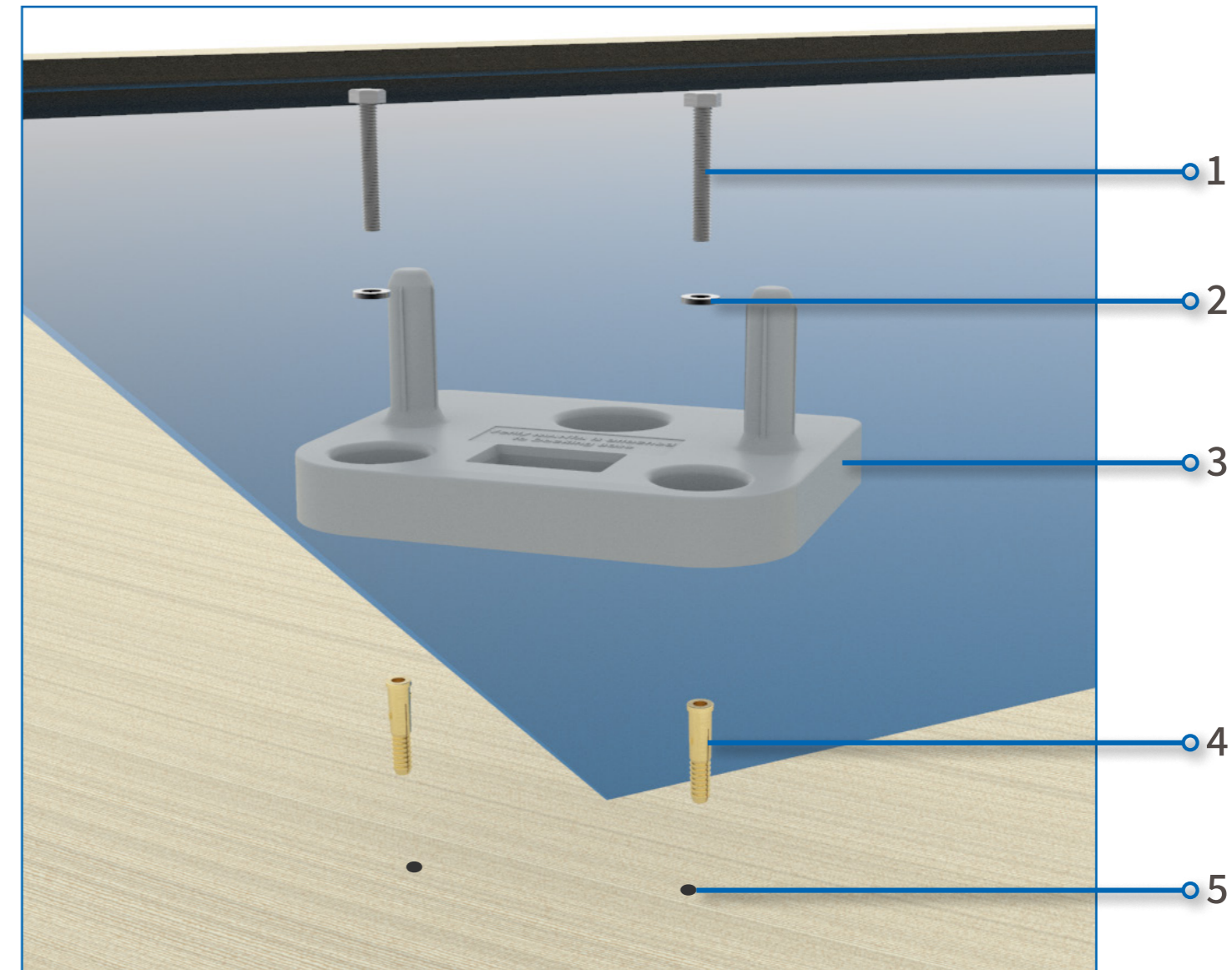
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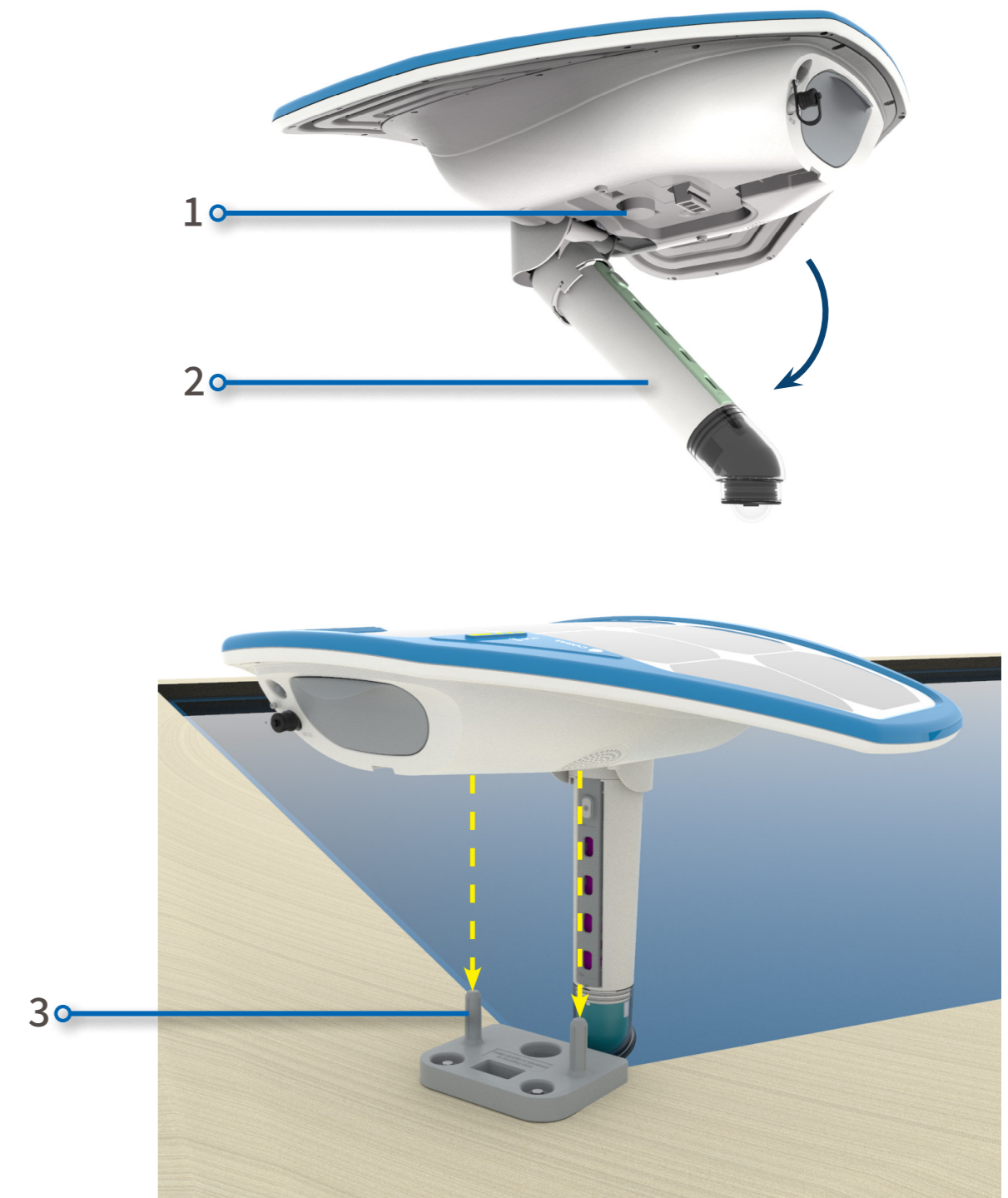
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Placing the Pool Unit

To mount the pool unit on the installed docking station:

1. Take the pool unit out of the package.

2. Unfold the underwater tube (2).

3. Remove the tip protective cover.

4. Align the docking posts (3) on the docking station with the receptors on the bottom of the pool unit.

5. Gently press the pool unit down onto the docking station. The magnet (1) in the pool unit secures the connection.

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