



Wavee Touchless Switch

Installation Guide

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Introduction

The Wavee Touchless Switch is a state-of-the-art touchless technology that can be used in residential, commercial and industrial applications.

- Detects motion of large bodies out to 2m
- Stationary objects are ignored
- Activates a SPST relay for control of locks or signaling to a panel
- Includes an LCD and buzzer for user feedback
- Supports secure 2-way BLE communications with mobile devices

This document provides instructions for the installation and configuration of the Wavee device.

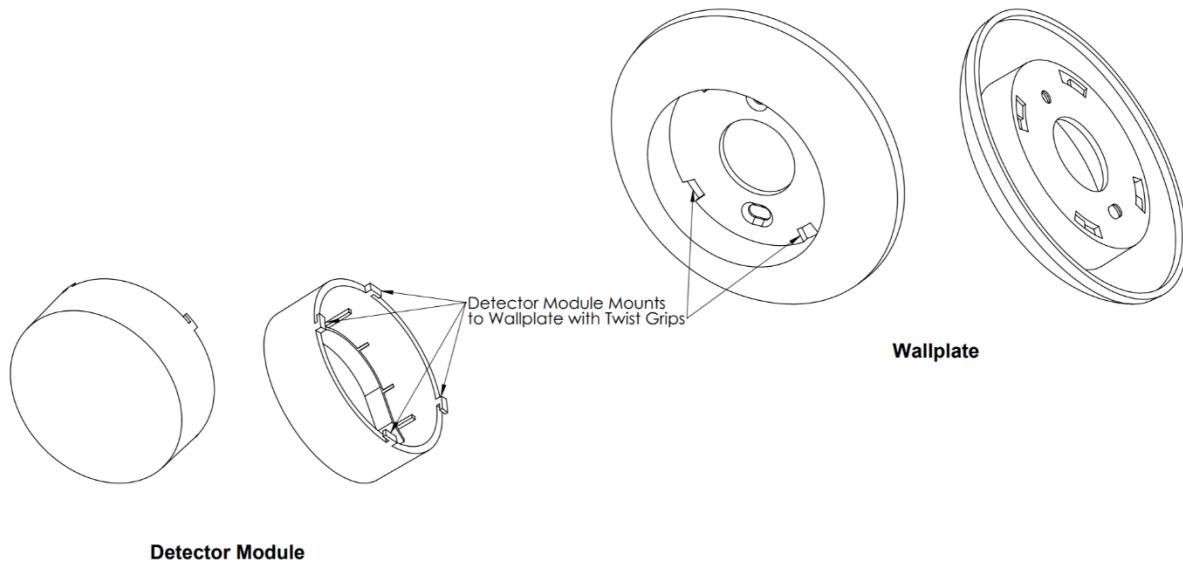
Document Version History

Revision	Description
1	Initial Release

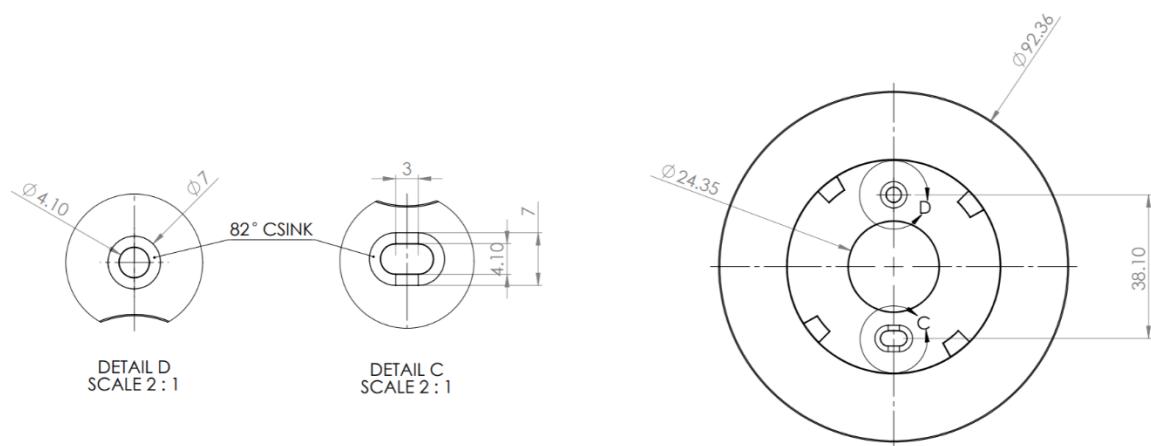
Installation

Mount Wall Plate

The Wavee Touchless Switch is a two-piece assembly consisting of a detector module and a mounting plate. The detector module has four small twist grips as shown below. Twist slightly clockwise to remove the module from the wallplate.



The wallplate comes with a mounting hole and mounting slot as shown below to ensure good vertical alignment. There is also a 24mm hole in the center to allow the communication cable to enter the wall.

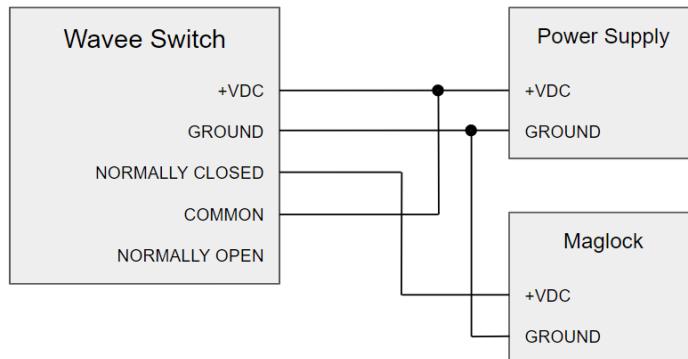


Wiring

The Wavee Touchless Switch comes with approximately 8" to 10" communication cable with 5 wires.

Color	Description
Red	+VDC – Wavee supports power supplies from +5V to +24V
Black	Ground
Green	Relay N/C – Normally closed circuit during idle operation, opens when motion detected
White	Relay COM – Common signal normally pulled up to higher voltage by host system
Orange	Relay N/O – Normally open circuit during idle operation, closes when motion detected

There are multiple ways to connect the Wavee device to the system. A basic wiring diagram is shown below. In this scenario, the normally closed relay wire is used to hold the magnetic strike in a locked position. When motion is detected, or power is lost to the system, the normally closed wire will open circuit putting the magnetic strike in the unlocked position.



Operation

When power is applied to the Wavee switch it will boot up for several seconds. Once it has completed booting up the LCD will display the following images for searching (idle) and detected modes.



Searching



Motion Detected

While in searching mode the relay wires will be in their default state. When motion is detected the relay wires will switch to their opposite state and the LCD will display the motion detected image. After a configurable period of time the relay and LCD will switch back to their searching (idle) state.

By default, the Wavee switch is configured to sound a buzzer for 500ms when it goes into the detected state. It will stay in the detected state for 5 seconds before returning to the searching state. These default parameters and more can be changed using the Wavee Configurator mobile app.

Configuration

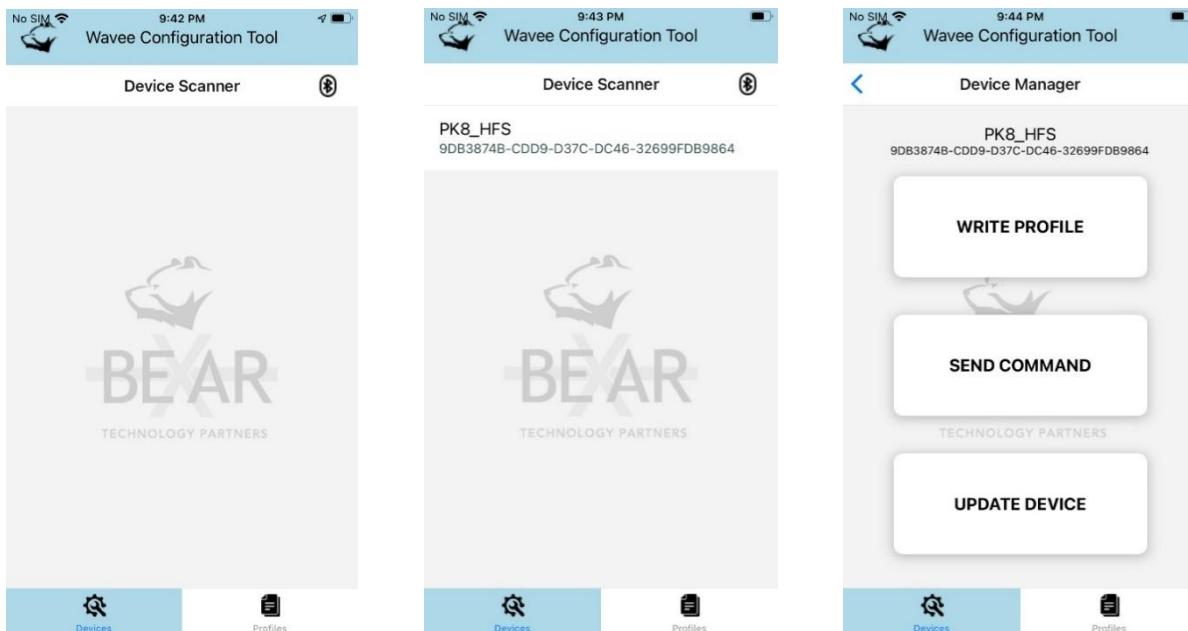
The Wavee device includes a Bluetooth interface that allows custom configuration and firmware updates. Navigate to the Apple or Google Play store and install the Wavee Configurator application.

There are two ways to configure the Wavee device; by command or by profile.

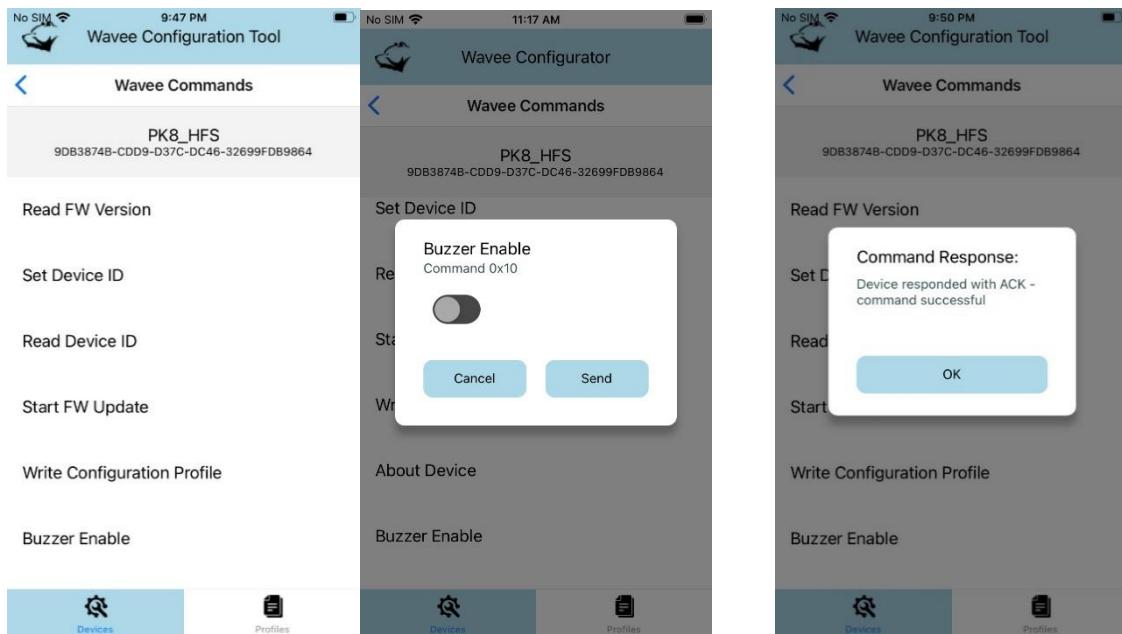
Configuration by Command

Individual parameters can be configured one at a time by sending commands.

1. Launch the Wavee Configurator app and navigate to the Device Scanner page.
2. Select the Bluetooth icon in the upper right corner. This will cause the app to scan for Wavee devices. After several seconds, the app will display all detected devices.
3. Select the desired device. Three button will be displayed allowing you to write a profile, send a command, or update the device.



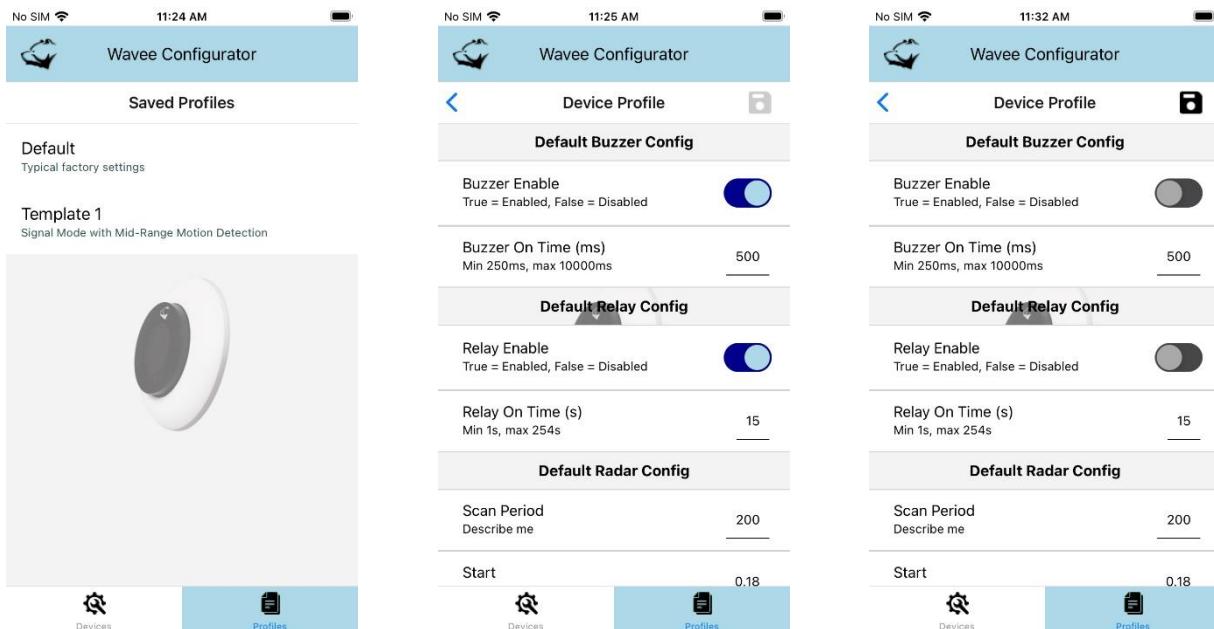
4. Select the Send Command button. A list of available commands will be presented.
5. Select the desired command and change the setting. In the example below we are disabling the buzzer.
6. Select the Send button. A Command response will be received acknowledging the command.



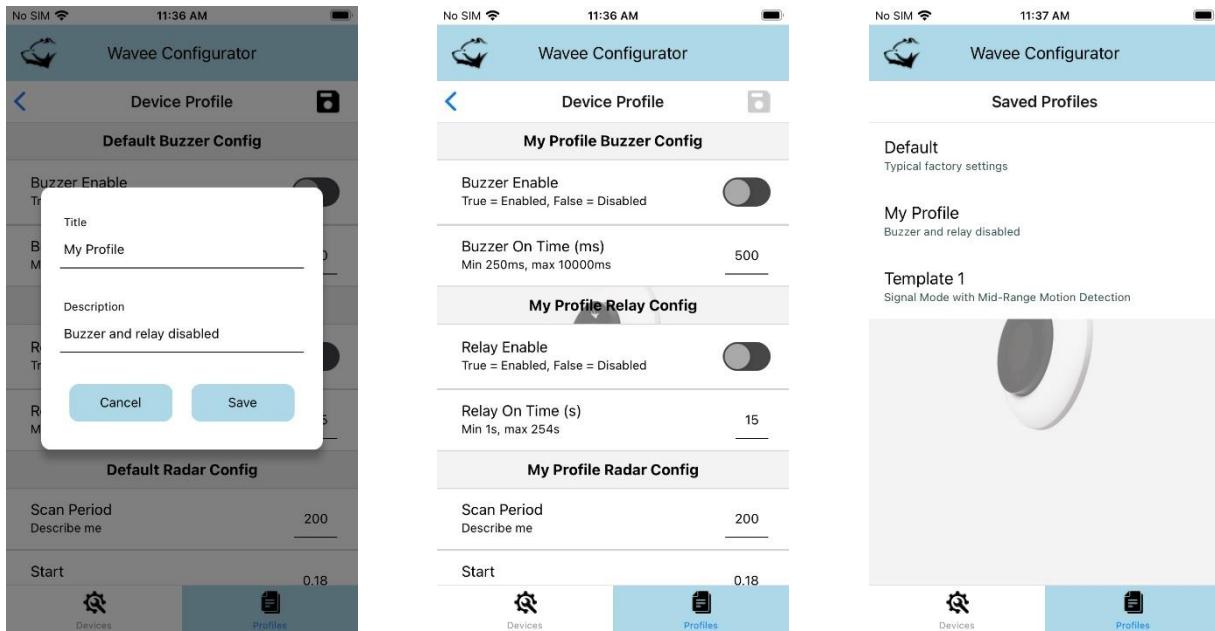
Configuration by Profile

The second method to configure the Wavee device is through a profile. This is a file saved on the device that configures all the device parameters in one go. In the following example we will disable the buzzer and relay.

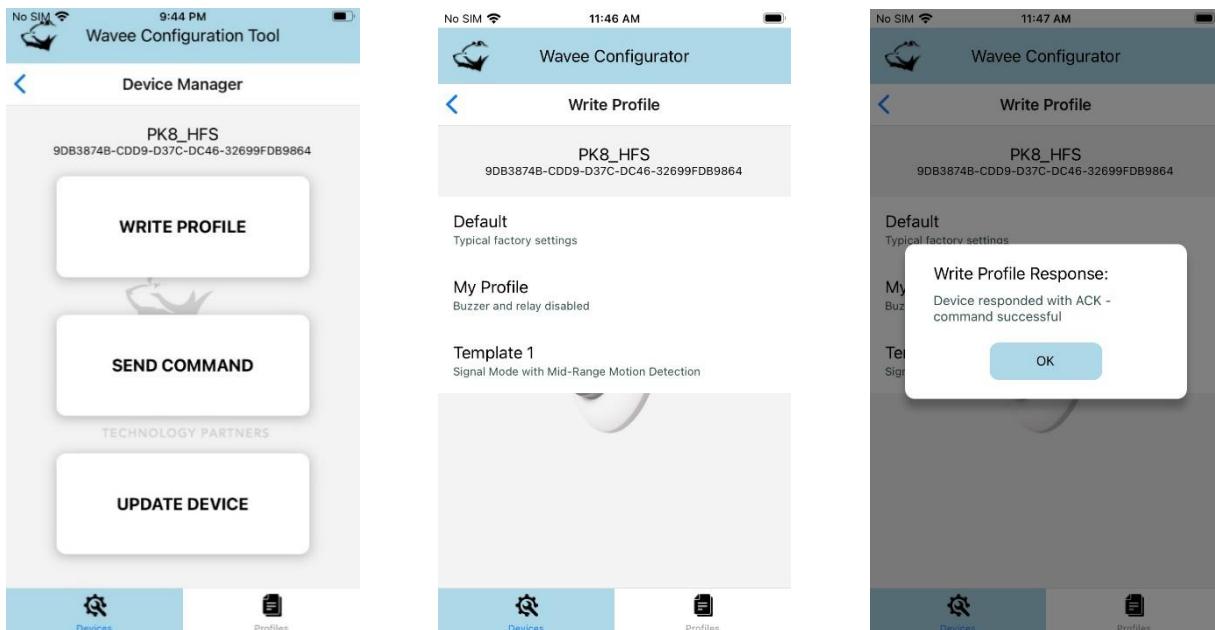
1. Navigate to the Profiles tab. A list of saved profiles will be displayed. By default, the app installs two profiles that can be used as a baseline for a new profile.
2. Disable the buzzer and relay. When you make the change, the save button in the upper right corner will be enabled.



3. Select the Save button. A Save dialog will appear. Enter a new name and select Save.
4. The displayed device profile will now show the new profile.
5. Navigate gate back to the Saved Profiles view and you will see your profile in the list.



6. Now navigate back to the Devices tab then search for and select the desired device as done in the previous section.
7. Select the Write Profile button. A list of saved profiles will be displayed.
8. Select the desired profile. The app will write the profile to the device and display an acknowledgement when the write is complete.



Compliance

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:

- 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

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.

This device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.