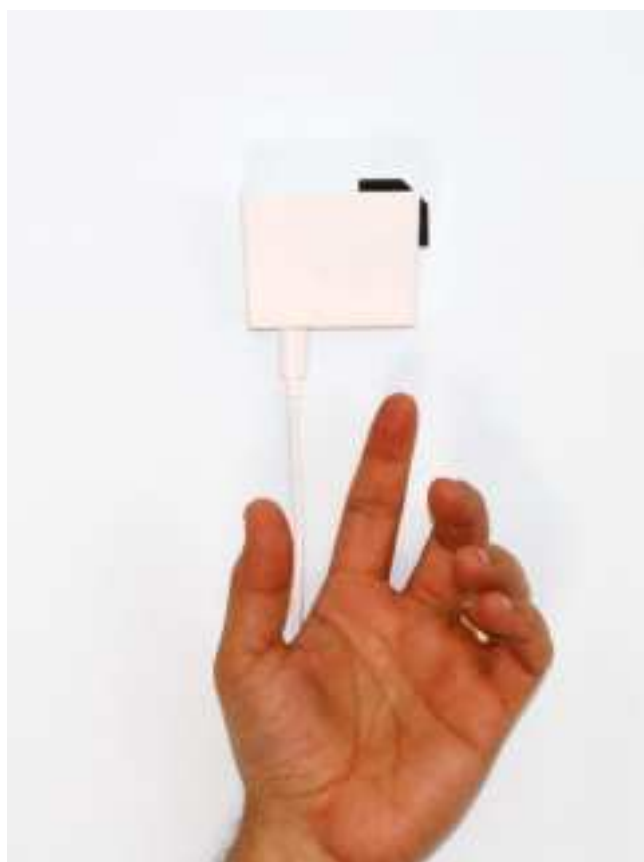# SAFEST Activity Sensor V1.1

User Installation, Operation, and Maintenance Instruction Manual

Violet Manufacturing Department
Reliant Medical Group
100 Front Street
Worcester, MA 01605
(508) 852-0600
www.ReliantMedicalGroup.org/Violet

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About This Document

This document contains instructions for a patient, family member, or other caregiver to correctly install and use the SAFEST Activity Sensor V1.1 in a patient's home. Review this entire document before starting the installation process in order to ensure conformance to all listed standards and common safety practices.

This document and SAFEST Activity Sensor V1.1 are the intellectual property of UnitedHealth Group with Patent Pending and copyright protection, all rights reserved. All hardware and software names used in this document are likely to be registered trademarks and must be treated accordingly.

Listings, Regulatory Compliance, Approvals and Certifications

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 complies with the following safety standards:
UL 62368-1:2019 Ed.3+R:22Oct2021
CSA C22.2#62368-1:2019 Ed.3+U1

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 equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm (8 inches) between the radiator and your body.

SAFEST V1.1 FCC ID: 2BEKJ-SAFESTV1-1   Contains FCC ID: 2AC7Z-ESPWROOMDA

The purpose of the SAFEST Activity Sensor with associated products and alerts is to monitor activity. It is not intended to diagnose, mitigate, treat, cure, or prevent any disease. Patients and caregivers should always rely on licensed medical professionals in making all health decisions and should use the information provided from the SAFEST Activity Sensor with associated products and alerts only as a resource to that process.
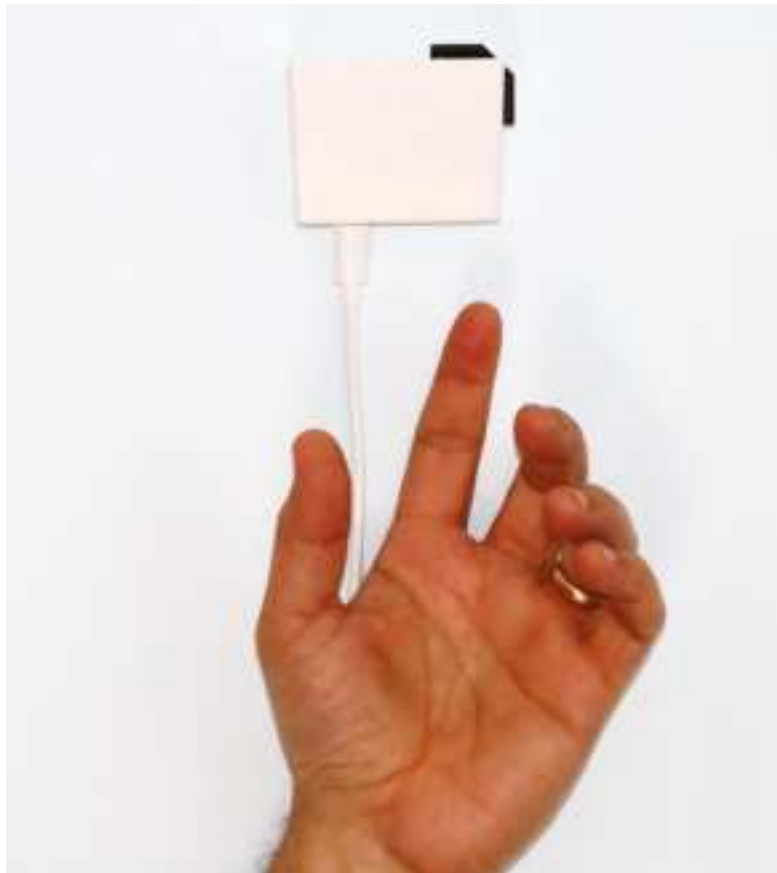
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WARNINGS

1) The SAFEST Activity Sensor V1.1 must be powered by a 5VDC 2.4A 12W USB-C power supply and cable. Use of a power supply that has different ratings may result in improper function, damage to the device, or a fire.

2) Do not plug the USB power cable into a power supply until the device is mounted on the wall, and unplug it before removing from the wall. While there is no scientific evidence for risk of exposure from radar signals similar to those used in the SAFEST Activity Sensor V1.1, it is recommended by the FCC to come no closer than 8 inches (20cm) to the device for a prolonged period of time when plugged into power.

3) Do not cover or block any of the openings on the SAFEST Activity Sensor V1.1 other than plugging in the single USB-C cable. The openings are designed to cool the device and blocking them may overheat the device and potentially cause a fire.

4) The SAFEST Activity Sensor with associated products and alerts does not replace the usual care and communication among patients, caregivers, and healthcare providers.

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Overview

The SAFEST Activity Sensor V1.1 is a 64Ghz radar device used to safely and securely track movement of individuals in a home. It does not have a camera and has been designed to ensure the privacy of individuals in their home. Activity data is evaluated by the device, summarized, encrypted, and then sent securely through a wireless connection to a monitoring application. This monitoring application may alert you or a caregiver of possible changes in your health.

Figure 1: SAFEST Activity Sensor V1.1

The SAFEST Activity Sensor is supplied fully assembled and configured by the Violet Manufacturing Department at Reliant Medical Group and has no internal user-serviceable parts. **It should never be disassembled! Changes or modifications, including painting, will void the user's authority to operate the equipment.**

In order to function properly, the SAFEST Activity Sensor requires an external 5VDC USB-C power supply, USB-C cable, and a Wi-Fi hotspot which are not part of the SAFEST Activity

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Sensor. **The external 5VDC USB-C power supply and cable must be rated at exactly 2.4A (12W).**

Figure 2: Sample 5VDC 2.4A power adapter

While this power supply, cable and Wi-Fi hotspot are **not** part of the SAFEST Activity Sensor, instructions for their installation and use are described in detail below.

Specifications for SAFEST Activity Sensor V1.1

Maximal Dimensions:	2 x 2.6 x 1.25 in. (50 x 66 x 32 mm) H x W x D
Weight:	0.09 lbs (40g)
Environmental Temperature:	0°C to +40°C (+32°F to +104°F)
Environmental Relative Humidity:	0 - 90% non-condensing
Power Input:	5.0VDC nominal (4.75VDC minimum to 5.5VDC maximum) 2.4A (12W) USB-C power supply and cable
Typical Current:	2.2A @ 5VDC
Maximum Current:	2.4A @ 5.5VDC
Minimum Mounting Height:	6 feet (1.83m) from bottom edge of SAFEST Activity Sensor to floor
Maximum Mounting Height:	7 feet (2.13m) from bottom edge of SAFEST Activity Sensor to floor

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Installation

Location of the SAFEST Activity Sensor

The SAFEST Activity Sensor should be located in a dry indoor location protected from dripping water, close to an unswitched 120VAC power source, and in a position that is near the center of a wall in the room that it is monitoring. If the room is rectangular, try to locate the sensor on one of the shorter walls. Remember that it will be mounted on the wall 6 to 7 feet off the ground, so it can't be on a window, picture, or doorway. Ideally it should have an unobstructed view of people walking for distances as far as 30 feet from the sensor within the room, so don't put it behind a decorative tree!

Location of the Cellular Wi-Fi Hotspot

The Cellular Wi-Fi Hotspot should be located on an outside wall, preferably near a window, and preferably within 50 feet of the SAFEST Activity Sensor. If you have been told which side of your house has the strongest cellular signal, use that side of the house. Referring to the manufacturer's instructions, place the cellular antenna on the window sill (if possible) and the Wi-Fi antenna along the wall as close to the SAFEST Activity Sensor as possible. Then plug the Cellular Wi-Fi Hotspot into an unswitched 120VAC power outlet.

Connecting the USB-C Cable to the SAFEST Activity Sensor

First, **ensure that the USB-C cable is not plugged into a power source**! Also ensure that the cable is long enough to reach from your power source to where the SAFEST Activity Sensor will hang 6 to 7 feet up on the wall. The cable should hang straight down to the power supply, or hang straight down to the floor and then run along the wall until it reaches the power supply. Do not have the cable run diagonally along the wall because it could pull the sensor off the wall. Also, **do not have the cable running into an area of the floor where people walk because someone could trip over the cable!**

Notice that there are 2 holes on the bottom of the SAFEST Activity Sensor. The center hole is for ventilation and should be left unobstructed. Plug the USB-C cable into the other hole on the bottom of the SAFEST Activity Sensor:

Figure 3: USB-C Cable plugged into SAFEST Activity Sensor

Mounting the SAFEST Activity Sensor onto the Wall

Use a tape measure to see if your fingertips can reach at least 6.5 feet above the ground where you will mount the SAFEST Activity Sensor. If not, get a secure step stool or ladder. If you are not safe climbing a step stool or ladder, get assistance! Hold the SAFEST Activity sensor up against the wall where you plan to mount it 6 to 7 feet above the ground with the USB-C cable dangling downward so that you are comfortable with the location and your ability to reach it. Use a dry clean cloth or paper towel to clean the wall in that location. You can use rubbing alcohol to help clean the area, but do not use water or household cleaners.

When you are confident in the location, its cleanliness, and your ability to reach it, peel off the 2 adhesive backing strips:

Figure 4: Peel off both adhesive backing strips

Now, with the sticky side of the strips exposed and facing the wall, and the USB-C cable hanging down, **make sure that it is approximately level**. Then firmly push the SAFEST Activity Sensor

against the wall in the desired mounting location and continue to **apply pressure for 30 seconds**. Then let go and the SAFEST Activity Sensor should continue to be stuck to the wall.

Figure 5: Press firmly for 30 seconds to ensure that it sticks to the wall
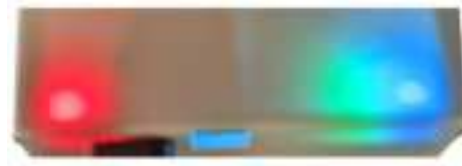
After it is stuck to the wall, do not try to remove or move it because it could rip the paint off of your wall! Instead, if you have to remove the sensor, follow the instructions at www.command.com/3M/en_US/command/how-to-use/picture-hanging-strips/#removal

Connecting the USB-C Cable to your Power Supply

Again confirm that your power supply or adapter is rated at 5VDC 2.4A as shown in Figure 2 above. Then plug your USB cable into the power supply or adapter and plug the power supply or adapter into an unswitched 120VAC power outlet. The SAFEST Activity Sensor will automatically turn on, start identifying activity, and start securely sending summary data to the monitoring application.

Operation

The SAFEST Activity Sensor works silently and automatically alerts the monitoring application if there are any potential problems with your activity or problems with the sensor itself. If a sensor problem is identified, you may be contacted and asked to look at the SAFEST Activity Sensor and report on any red, green, or blue colors that might be lighting up:

Figure 6: Red, green, and blue lights that might appear on sensor

Maintenance

The SAFEST Activity Sensor requires no maintenance, but occasional gentle removal of dust from the top with a dry feather-like duster is acceptable. Never use a wet duster!