Manuel & Operating Instructions
Standard Sensor Models M1001--- (Propane)

INTENDED USE OF THE M1001 SENSOR IS TO MEASURE THE AMOUNT OF LIQUID PROPANE INSIDE A PROPANE TANK MEETING THE SPECIFATIONS BELOW, UNDER THE CONDITIONS LISTED BELOW.

THIS DEVICE IS INTENDED FOR OUTDOOR USE ONLY.

WARNING

USE OF THIS DEVICE IN A MANNER OTHER THAN STATED IN THIS MANUAL, MAY RESULT IN IMPAIRMENT OF THE DESIGNED SAFETY PROTECTION AND THUS AN UNSAFE CONDITION.

SPECIFICATIONS	
MEASUREMENT METHOD	Ultrasonic
FLUID	Propane
TANK TYPES	Steel Tanks Note: Also works with aluminum tanks with alternate mounting. Not intended for use on composite cylinders.
TANK SIZES	Vertical DOT Cylinders of 20, 30, and 40 lb (5, 7.5, and 10 gal) Horizontal tanks up to 20" diameter Typically any propane tank up to 20" fluid height, on which the sensor may be mounted on bottom.
Envelope Dimensions	47.2 x 87.7 x 7.3 mm (1.85 x 3.45 x 0.29in)
Mounting location	Tank Bottom
Suitable for these locations	CLASS 1, DIVISION 2, GROUP D CLASS 1, ZONE 2, GROUP IIA
OPERATING TEMPERATURE RANGE	-25° TO 40°C
TEMPERATURE CODE	T6
BATTERY	ONE, CR2032 COIN CELL (3V)
HUMIDITY RANGE	0 - 100%
MAX ALTITUDE	4000m

WARNING

EXPLOSION HAZARD-BATTERIES MUST ONLY BE CHANGED IN AN AREA FREE OF IGNITIBLE CONCENTRATIONS.

WARNING

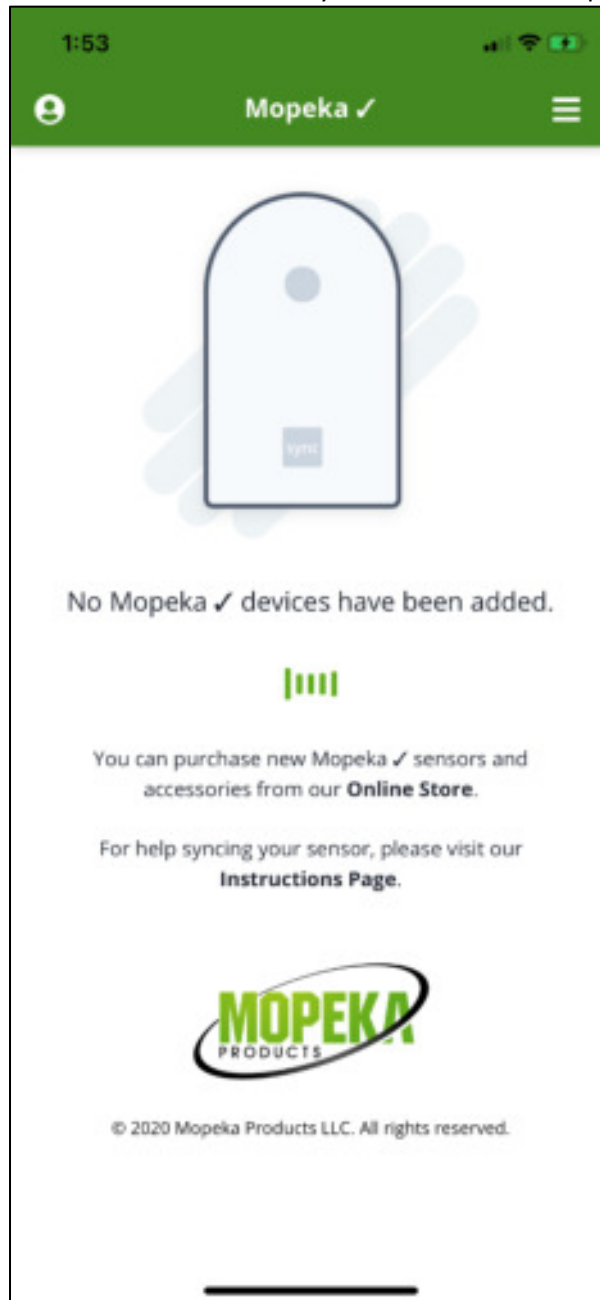THIS DEVICE IS NOT TO BE REPAIRED OR OTHERWISE MODIFIED.

MOPEKA PRODUCTS LLC

MAILING ADDRESS: 1223 Industrial Dr. Suite A. 78130

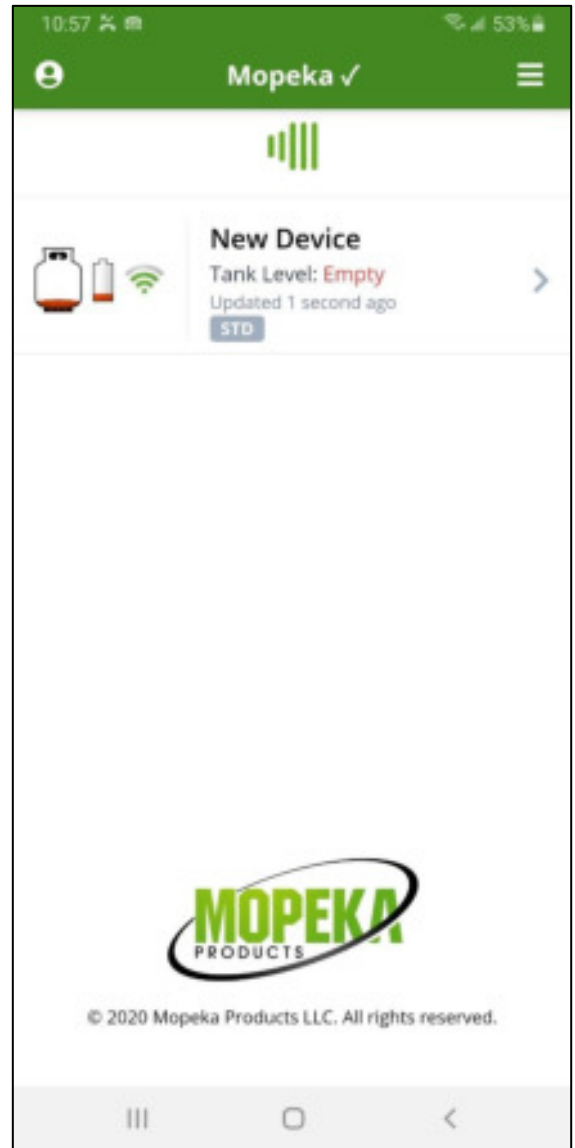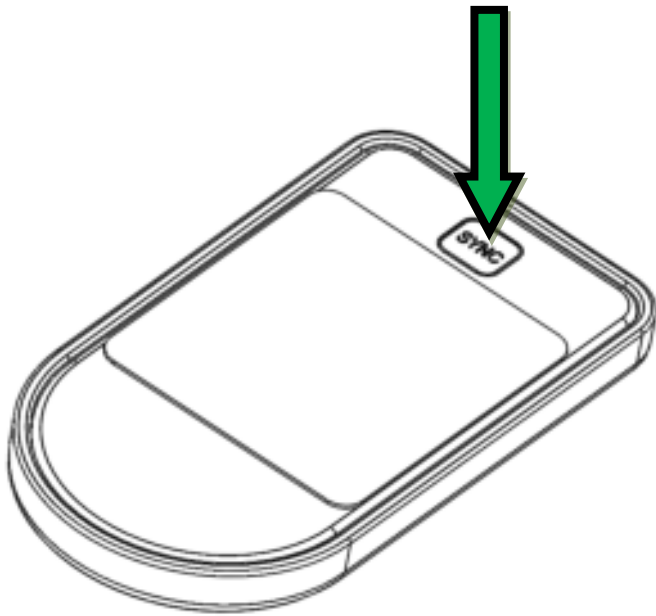www.mopeka.com

support@mopeka.com

OPERATING INSTRUCTIONS

Smart Device/App Users

1. Go to your app store. Search for Mopeka Tank Check app and install.
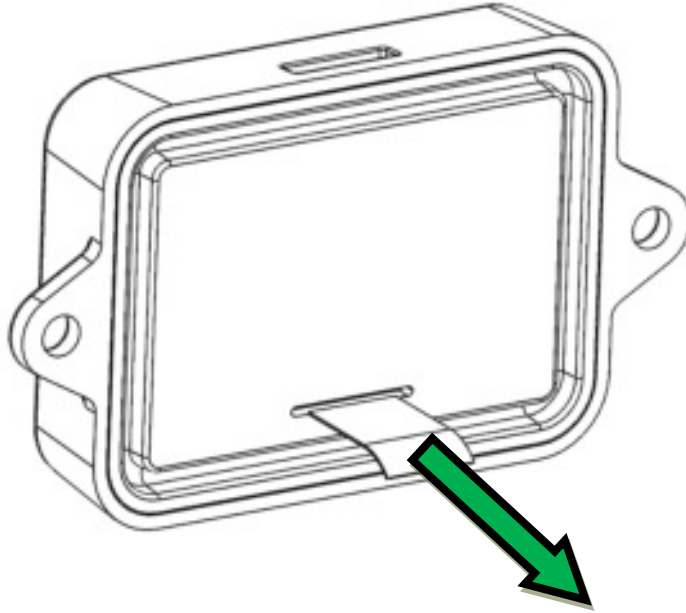2. Launch the app. When it starts it will automatically start a search for Mopeka ✓ sensors.

3. *Press and hold SYNC button until sensor appears on app. (up to 10 seconds)*

4. The sensor will then appear on your app as a new device.
5. Sensor is now Sync'd. You may now proceed to installing the sensor on the tank.
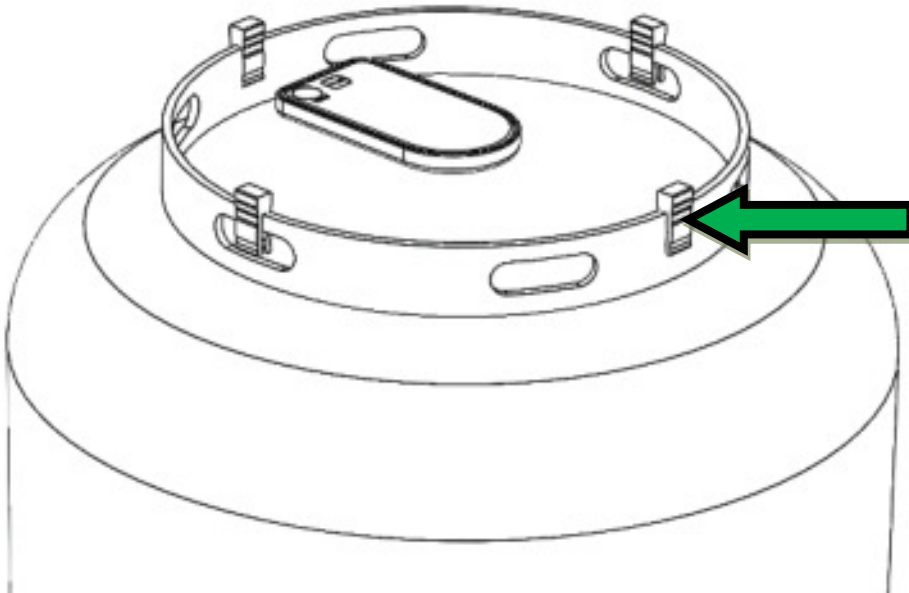
For LPG Tank ✓ Display Users:

6. Pull the battery protection strip completely out of display and discard. This will turn on the display.
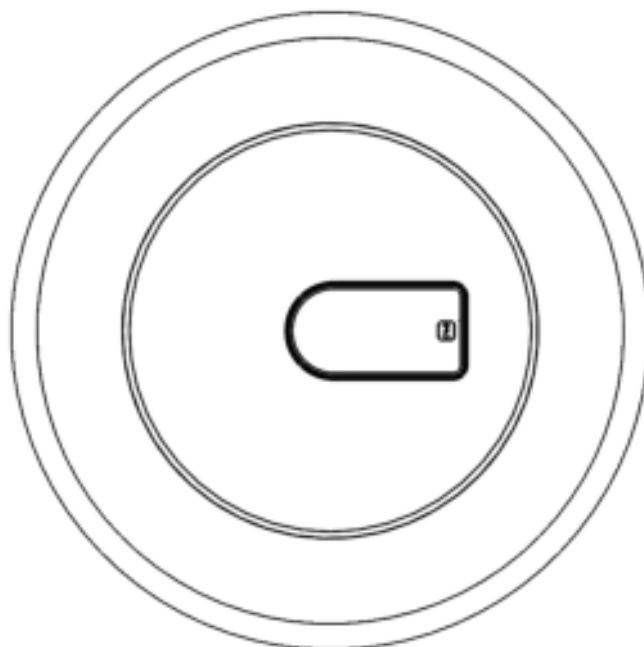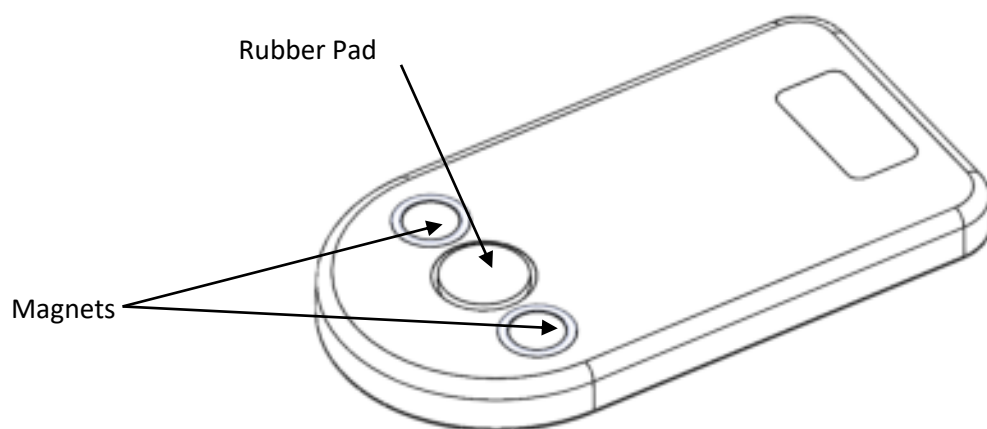

7. Hold one of the buttons on your Display until the lights for that button start flashing (approx 5 seconds). Release button when lights start flashing.
8. Press and hold SYNC button until sensor (up to 10 seconds) until the display lights stop flashing. The sensor is now synced with the display.
9. Repeat steps to sync the second sensor to the 2nd button/gauge of the display.
10. Both sensors are now sync'd to the display.
11. The display is programmable, allowing you to choose a tank size of 20 lb (5 gal), 30 lb (7.5 gal), or 40 lb (10 gal).
12. It is automatically set to 20 lb from the factory. To change the size setting, hold the button of the scale you want to change for 10 seconds. (After 5 seconds lights will start flashing, as when syncing. But continue to hold button until lights change again.)
13. At 10 seconds, a single light will appear. Continue to hold button. The single light will scroll between red, yellow, and green. When the color corresponding to your tank size appears, release the button. Your tank size is now set.
    - Red = 20 lb
    - Yellow = 30 lb
    - Green = 40 lb
    - Green (2nd from top) = 100 lb
14. You are now ready to install the sensor(s) on the tank(s).

Install Sensor on Tank-Vertical Cylinders

15. Clean the bottom of the tank of any debris, excess paint, and rust.
16. If your tank sits directly on the ground or other flat surface, then install the spacers to the bottom of the foot ring of your tank. This will provide adequate space and improved wireless range for the sensor.
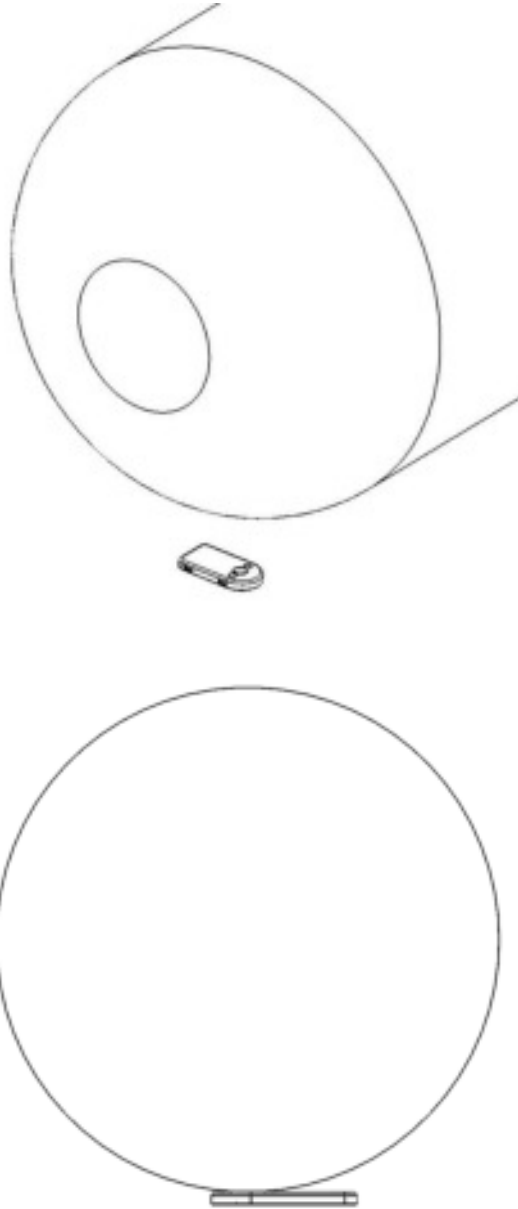

17. The sensor mounts to the bottom center of the tank using magnets. The rubber pad between the magnets must make good contact with the tank, with no contaminants in between and must be aligned to the bottom center of the tank.
18. Apply a generous amount of the supplied sonic grease directly to the rubber pad before attaching sensor to the tank.
19. Install sensor on tank such that rubber pad is aligned with the bottom, center of tank.

Rubber Pad

Magnets

20. Return the tank to the upright position. Check that the tank is on a level and flat surface or otherwise is level with ground. A tilt can degrade the quality of the measurement.
21. After a few seconds, up to a few minutes, the propane will settle, and the readings will stabilize.

Install Sensor on Tank-Horizontal Cylinders

22. If installing on a horizontal tank, place the sensor on center, bottom of tank, with rubber pad and magnets against tank as shown. It is important to place it on the center of tank so that sensor is horizontal, or sensor reading quality can be poor.

Using the LPG Tank ✓

App Users:

23. Clicking on a sensor in the main list takes you to the sensor's own screen, where you can change settings specific to that sensor. Click on the settings icon to modify. Common items to check are-
    a. Check the tank size to match your tank.
    b. Rename the sensor as needed to recognize it.
    c. Set how you wish the level to be displayed (% or actual height).

24. It is important to note the indicators on the sensor screen.
    a. Signal = Bluetooth wireless signal strength from sensor to the device. Please note that this symbol may change to a Cloud symbol when the phone is out of Bluetooth range. Please refer to App Instructions on the Mopeka website for more detail.
    b. The Quality indicator shown on a sensor's home screen (3 star scale) is used to understand if the sensor's ultrasonic measurement system is working correctly. Typically, if quality is low, (1 star or less) the sensor is mounted poorly: poorly positioned on the center bottom of tank, has debris on the tank in front of the rubber pad interfering with performance, or is lacking adequate sonic grease. Therefore, it is important to check Quality, especially during the first installation and setup. Typically, once installed correctly, with Quality at least 2 stars, it will not need change unless tank is disturbed such that it is no longer standing upright & level.
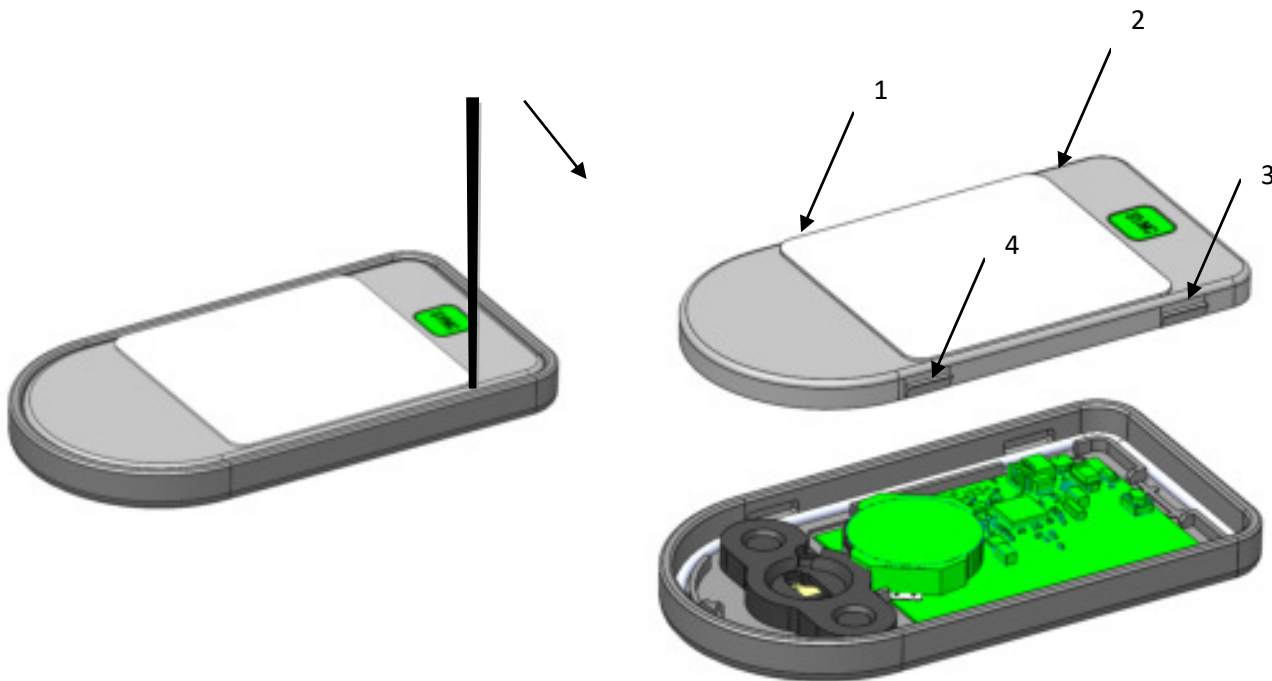
Display Users:

25. Pushing the display's button will initiate a scroll of the lights, once it obtains a new tank level reading from the sensor, that level will be displayed. It will remain lit for several seconds and then go back to sleep.

26. If the lights continue to scroll and never displays a level, the sensor and display are not communicating. Try pushing the button again. If the display still does not read, you may need to reposition the display, or check the FAQ's and Troubleshooting on our website.

27. Your display will automatically monitor tank readings every 30 minutes. If a tank level goes below 10% of full, the red light will start slowly flashing to alert you that your tank is near empty. The flashing may be stopped by pressing that Tank's button on the Display. This sequence then repeats every 8 hours.

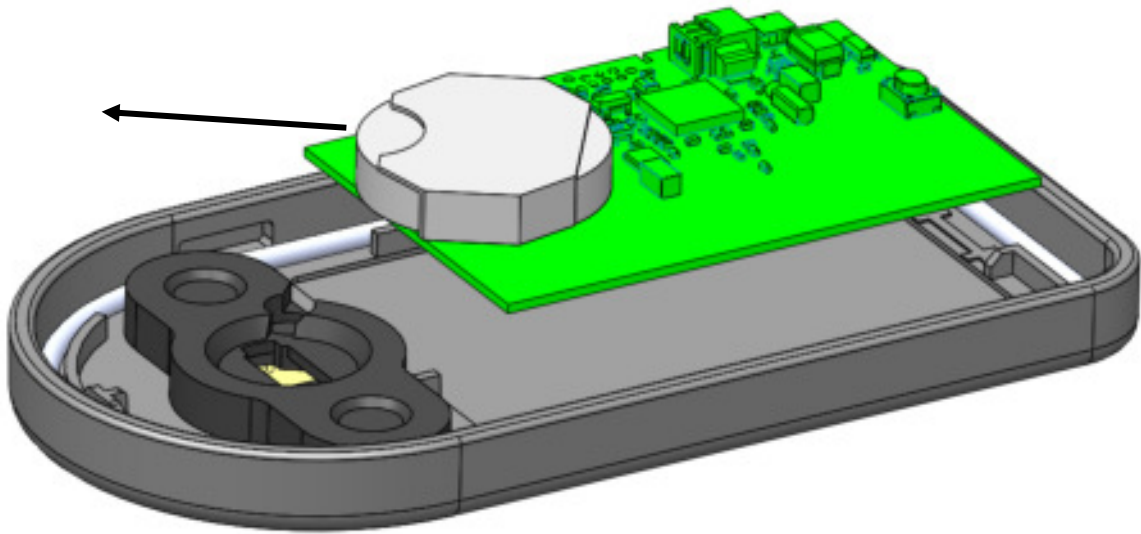# BATTERY CHANGE INSTRUCTIONS

WARNING
EXPLOSION HAZARD-BATTERIES MUST ONLY BE CHANGED IN AN AREA FREE OF IGNITIBLE CONCENTRATIONS.
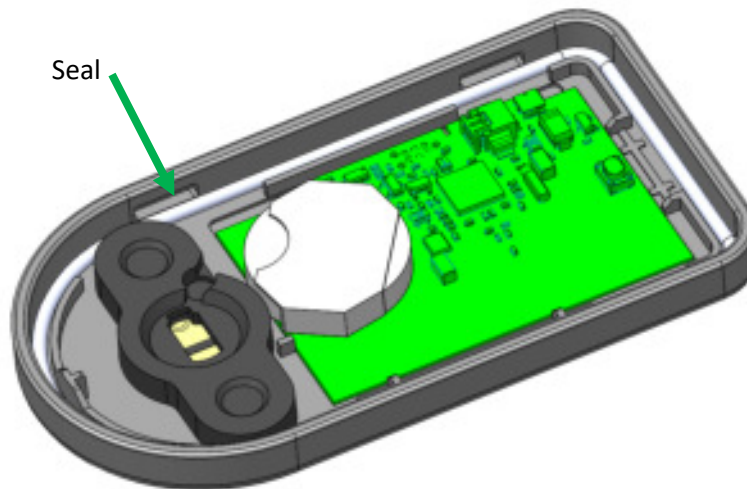
1. The enclosure lid is held in place by a snap fit, in 4 places. In the approximate locations shown, insert small screwdriver, or similar, between lid and base and pry outward to release snap fit. Lid can then be lifted out of assembly. (Note: Sync button will sometimes be slightly stuck to electronics board. Detach sync button and board if necessary to completely remove lid and leave electronics in the base piece.)
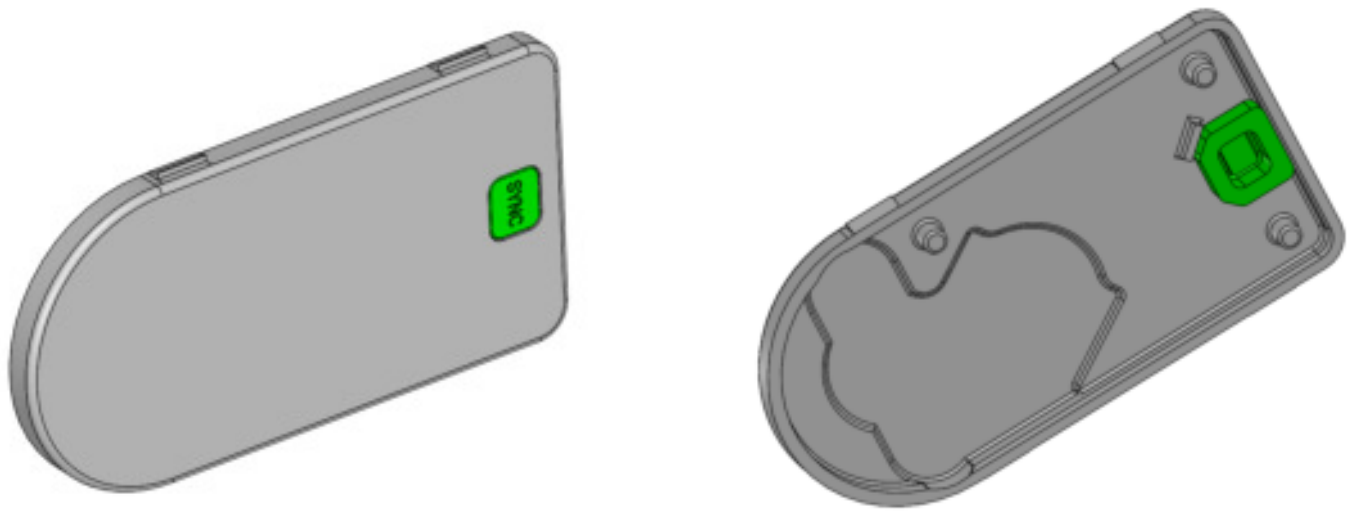
2. Gently lift board from base such that battery can be removed from battery holder. Insert new battery in same orientation. *(Note: Wires that connect sensor base and electronics board remain attached during battery change. Use care not to pull too hard on wires thus damaging the sensor.)*
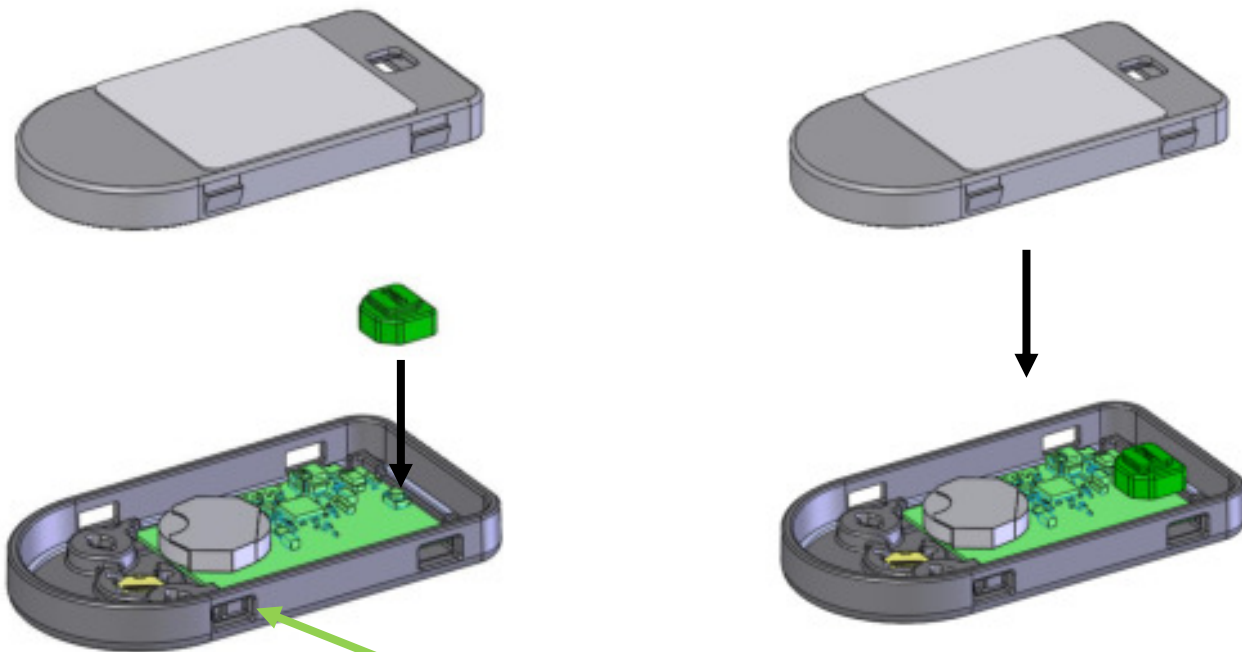
3. Place electronics board back into base. Pay attention to wire routing so that wires do not get pinched when lid is reassembled. Also check that the enclosure seal is properly seated into the base.

Seal

4. If Sync button came loose during disassembly, assemble button back to lid. Button will stay attached to lid once properly assembled to lid.
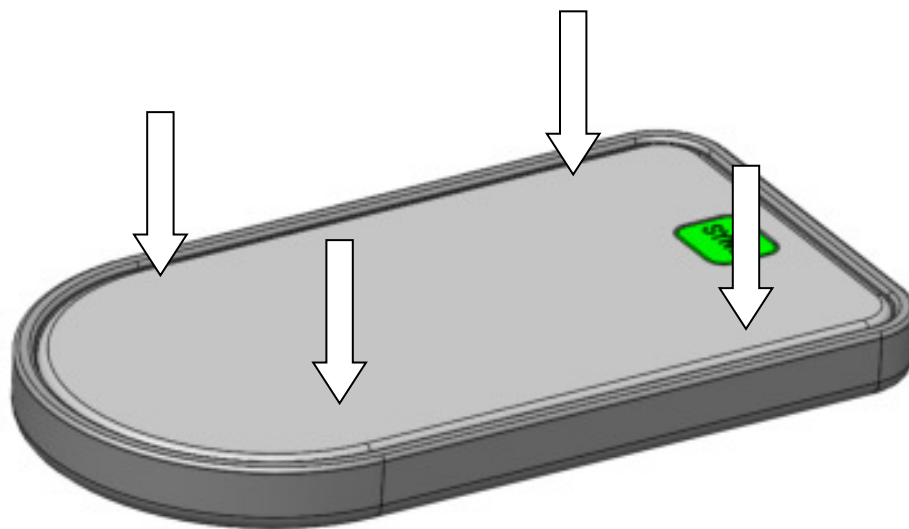

Note: First generation product only-Sync button does not assemble to lid. Place Sync button on electronics board as shown, and then install lid over Sync button onto base and snap in place.
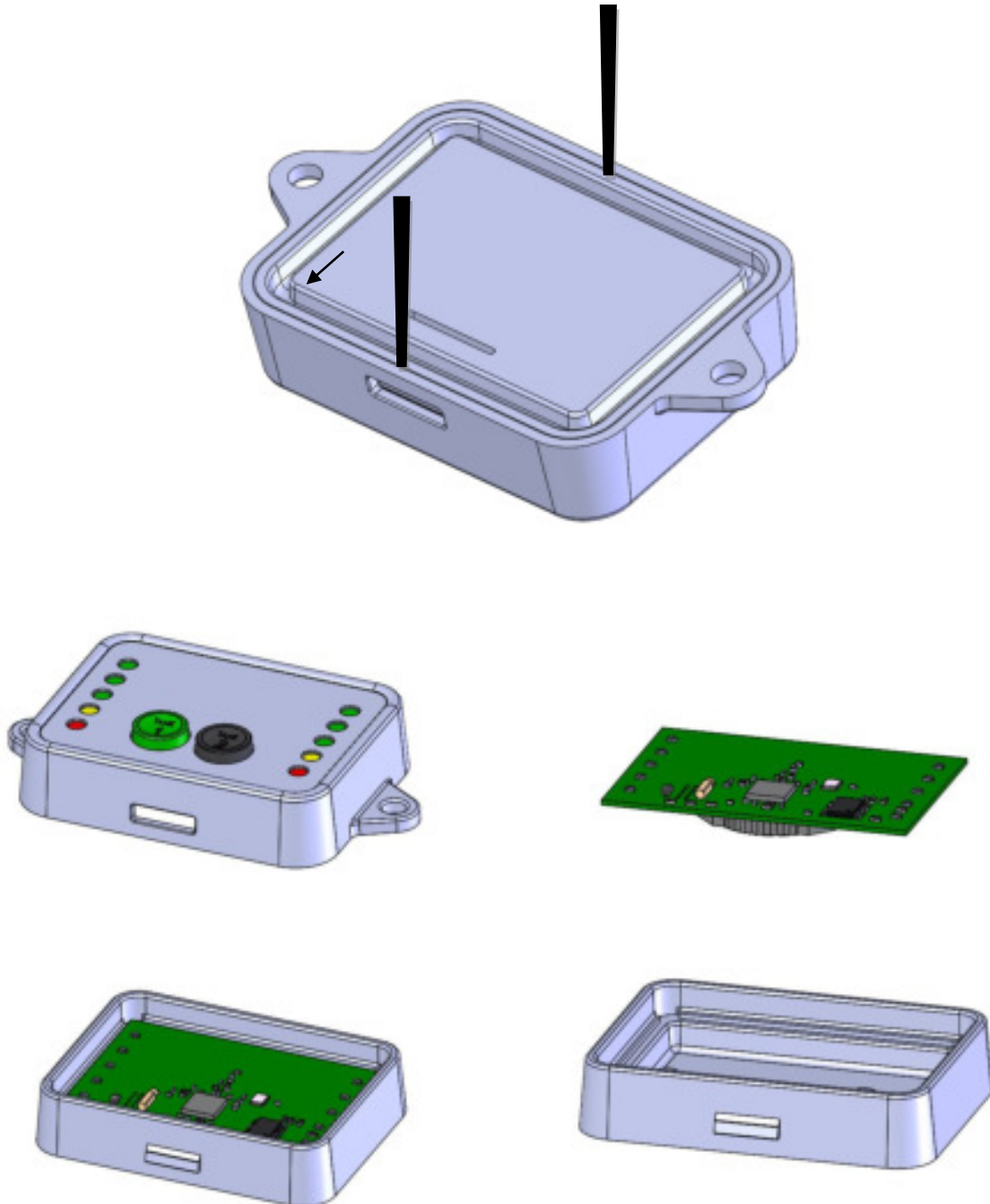

(First generation product can be identified by the snap fit cutout windows in the base.)

6. Place lid back into base and press down fully to reengage all 4 snap fits.

BATTERY CHANGE INSTRUCTIONS-LED DISPLAY

1. The standalone display lid is held in place by a snap fit, in 2 places. In the locations shown, insert small screwdriver between lid and base and pry outward to release snap fit. Lid can then be lifted out of assembly.
2. Lift electronics board out of assembly and remove battery. Place new battery in same orientation.
3. Place electronics board back into the base. Place buttons and snap lid back to base.

REVISION TABLE

REVISION	DESCRIPTION	DATE
A	RELEASE	2018.02.21
B	UPDATED FOR CERTIFICATIONS	2018.02.22
C	ADDED DWG NUMBER TO FOOTER	2018.02.27
D	ADDED USE/SPEC TABLE SHEET 1	2018.03.05
E	ADDED INTENDED USE STATEMENT, PAGE 1	2018.03.06
F	MODIFIED SYNC TO PRESS AND HLD	2018.06.21
G	GENERAL UPDATES	2020.11.16
H	ADDED BATTERY CHANGE FOR DISPLAY	2020.11.17
J	ADDED 100 LB PROGRAMMABLE DISPLAY OPTION	2021.09.15