



## Manuel & Operating Instructions Sensor Models M1015 – Pro + Sensors

INTENDED USE OF THE M1015 SENSOR IS TO MEASURE THE AMOUNT OF LIQUID PROPANE (AND OTHER LIQUIDS) INSIDE A PROPANE TANK MEETING THE SPECIFATIONS BELOW, UNDER THE CONDITIONS LISTED BELOW.

THIS DEVICE IS INTENDED FOR OUTDOOR USE ONLY.

<b>SPECIFICATIONS</b>	
<b>MEASUREMENT METHOD</b>	Ultrasonic
<b>FLUID</b>	Propane
<b>TANK TYPES</b>	Steel Tanks Note: Also works with aluminum tanks with alternate mounting. Not intended for use on composite cylinders.
<b>TANK SIZES</b>	Vertical DOT Cylinders of 20 -100 lb (5 - 25 gal) and vertical tanks up to 11' tall. Horizontal tanks up to 11' diameter
<b>Envelope Dimensions</b>	196 x 106 x 15 mm (7.7 x 4.2 x 0.59 in)
<b>Mounting location</b>	Tank Bottom
<b>Suitable for these locations</b>	CLASS I, DIVISION 2, GROUP D, T4 CLASS I, ZONE 0, AEx ia IIA, T4, Ga Ex ia IIA, T4, Ga IP 54 Canada cert number: ETL21CA104765039X
<b>OPERATING TEMPERATURE RANGE</b>	-40° TO 55°C
<b>TEMPERATURE CODE</b>	T4
<b>BATTERY</b>	2 AA (Energizer Ultimate Lithium only)
<b>HUMIDITY RANGE</b>	0 - 100%
<b>MAX ALTITUDE</b>	4000m
<b>AMBIENT CONDITIONS FOR TESTING</b>	23°C, 14.7 PSIA

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**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.

**WARNING**

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

**WARNING**

TO REDUCE THE RISK OF EXPLOSION DO NOT MIX OLD BATTERIES WITH USED BATTERIES, OR MIX BATTERIES FROM OTHER MANUFACTURERS.

**WARNING**

ONLY USE BATTER MANUFACTURER: ENERGIZER, PN L92 (ULTIMATE LITHIUM)

**WARNING**

THIS DEVICE IS NOT TO BE REPAIRED OR OTHERWISE MODIFIED.

**WARNING**

POTENTIAL ELECTROSTATIC CHARGING HAZARD

**ATTENTION**

L'UTILISATION DE CET APPAREIL D'UNE AUTRE MANIÈRE QUE CELLE MENTIONNÉE DANS CE MANUEL PEUT ENTRAÎNER UNE DÉTÉRIORATION DE LA PROTECTION DE SÉCURITÉ CONÇUE ET AINSI UNE CONDITION DANGEREUSE.

**ATTENTION**

LES BATTERIES À RISQUE D'EXPLOSION DOIVENT ÊTRE CHANGÉES UNIQUEMENT DANS UN ENDROIT EXEMPT DE CONCENTRATIONS INFLAMMABLES.

**ATTENTION**

POUR RÉDUIRE LE RISQUE D'EXPLOSION, NE MÉLANGEZ PAS DE VIEILLES BATTERIES AVEC DES BATTERIES USÉES, OU MÉLANGEZ DES BATTERIES D'AUTRES FABRICANTS.

**ATTENTION**

UTILISER UNIQUEMENT LE FABRICANT DE LA PÂTE : ENERGIZER, PN L92 (ULTIMATE LITHIUM)

**ATTENTION**

CET APPAREIL NE DOIT PAS ÊTRE RÉPARÉ OU MODIFIÉ AUTREMENT.

**ATTENTION**

RISQUE DE CHARGE ÉLECTROSTATIQUE POTENTIEL



### **General Instructions & Warnings**

Only install this device as described below. No field assembly is required. The sync process to the app on your smart device, as described below, should occur in an area clearly out of any explosive atmosphere.

Once device is synced to the smart device/app, the device is “in service” and operating normally. Device will then operate continually until battery is exhausted. There is no “Power Off” mode from that point forward. Once in service, the device may then be moved, repositioned, or removed from the tank as needed, without any special instruction or changes to the device.

This equipment is not intended for repair or maintenance, other than changing batteries.

Any modification of the device may result in an unsafe condition.

Do not use device for any other application, other environment, or in any other manner than as stated in this manual. Any such misuse may result in an unsafe condition.



## Mopeka Pro + Instructions (APP USER/HOMEOWNER)

### **Startup:**

1. Remove 2 screws and lid.
2. Install 2 AAA batteries. Two AAA Energizer Ultimate Lithium batteries are required. Note: Battery orientation is shown in the bottom of the sensor under each battery.

#### Cellular:

3. Sensor will beep 2x when batteries are inserted. Wait for 3 beeps, to indicate successful cellular/cloud connection. First start up may take longer to achieve 3 beeps because of initial cellular provisioning.
4. Note: Any time button is pressed, data will also be uploaded to the cloud. So, for example, after pressing the button to sync the sensor to the app, you will hear 3 beeps after data is uploaded to the cloud.

#### BLE & Cellular:

5. Reinstall lid and screws. Torque = 9 in lbs.
6. Open Mopeka app.
7. Press button for 2 seconds to sync sensor to app.
8. In the app, go to sensor page; click on settings icon; and enter appropriate tank size. Other settings may be adjusted as desired.
9. Be sure to create a user login (person icon in upper left corner of main app screen) to enable all features of the app such as remote checking tank level.



### **Installation:**

10. Prior to installation, install sonic grease on center pad as shown.
11. Push and hold sync button (3 seconds) until beeping starts.
12. The beeping is an indicator of the correct installation position and ultrasonic function.
13. Note: LED light will flash simultaneously with beeper, as visual indicator if background noise makes hearing beeper difficult.
14. Beeping will be rapid when button is first pressed.
15. Install sensor on tank bottom. See installation tips below.



16. As sensor begins to read tank level, beeping will slow indicating good quality readings.
17. Wait for 10-20 seconds to evaluate beeping (and thus installation position.)
18. If beeping stops, reading quality is adequate and installation is complete.
19. If beeping has not stopped, reposition sensor and reevaluate beeping.
20. Note that instead of using beeper, the Mopeka Tank Check app may be used to evaluate tank level and reading quality in further detail, including a bubble leveling tool that can help ensure proper, horizontal position of sensor.



## Mopeka Pro + Instructions – FOR INSTALLER USING MOPEKA MONITORING SERVICE

### **Startup:**

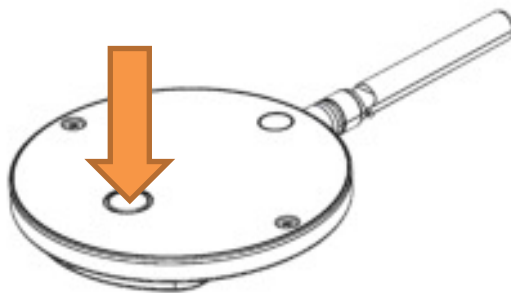
1. Remove 2 screws and lid.
2. Install 2 AAA batteries. 2, AAA Energizer Ultimate Lithium batteries are required. Note: Battery orientation is shown in the bottom of the sensor under each battery.

### Cellular:

3. Sensor will beep 2x when batteries are inserted. Wait for 3 beeps, to indicate successful cellular/cloud connection. First start up may take longer to achieve 3 beeps because of initial cellular provisioning.
4. Note: Any time button is pressed, data will also be uploaded to the cloud. So, for example, after pressing the button to sync the sensor to the app, you will hear 3 beeps after data is uploaded to the cloud.
5. Reinstall lid and screws. Torque = 9 in lbs.
6. Scan QR code on sensor. The automated link in the QR code will open the Mopeka cloud to enter all the relevant information required, such as customer name, tank size, etc.
7. After all customer information is entered, push the sync button on sensor (1x, and immediately release) to initiate a data upload to the cloud.
8. System is now ready to install the sensor on the tank.

### **Installation:**

9. Prior to installation, install sonic grease on center pad as shown.
10. Push and hold sync button (3 seconds) until beeping starts.



11. The beeping is an indicator of the correct installation position and ultrasonic function.
12. Note: LED light will flash simultaneously with beeper, as visual indicator if background noise makes hearing beeper difficult.
13. Beeping will be rapid when button is first pressed.



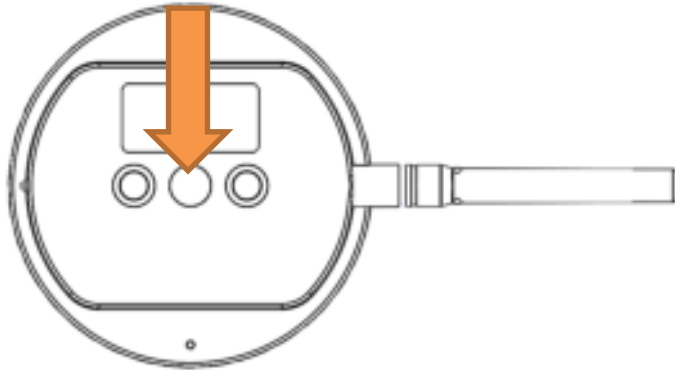
14. Install sensor on tank bottom. See installation tips below.
15. As sensor begins to read tank level, beeping will slow indicating good quality readings.
16. Wait for 10-20 seconds to evaluate beeping (and thus installation position.)
17. If beeping stops, reading quality is adequate and installation is complete.
18. If beeping has not stopped, reposition sensor and reevaluate beeping.
19. The Mopeka Tank Check app may be used to evaluate tank level and reading quality in further detail, including a bubble leveling tool that can help ensure proper, horizontal position of sensor.
20. After successful install, check cloud page again and verify sensor is now updating in the cloud system. Note: You may press the button on sensor anytime, to initiate a cloud update.
21. Sensors normally update every 6 hours otherwise.

To Setup Bluetooth access to Mopeka app (for homeowners/users that want to also directly read sensor in app):

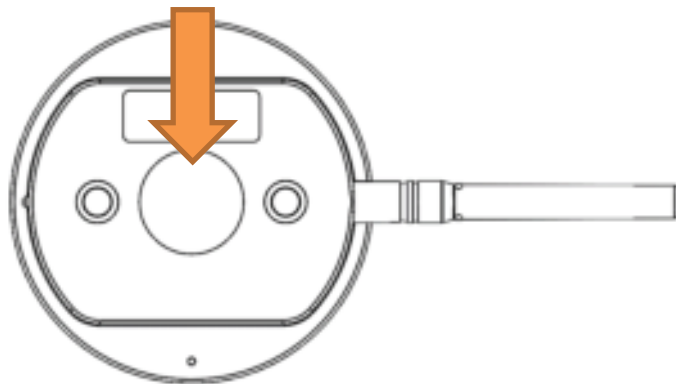
22. Open Mopeka app.
23. Press button for 2 seconds to sync sensor to app.
24. In the app, go to sensor page; click on settings icon; and enter appropriate tank size. Other settings may be adjusted as desired.
25. Be sure to create a user login (person icon in upper left corner of main app screen) to enable all features of the app.

**Installation Tips:**

Residential Sensor, apply grease to pad shown. Note also that if sensor is repositioned several times, it may be necessary to reapply grease, to ensure good coverage of the round pad.



Bulk Storage Tank Sensor, apply grease to circular area shown.

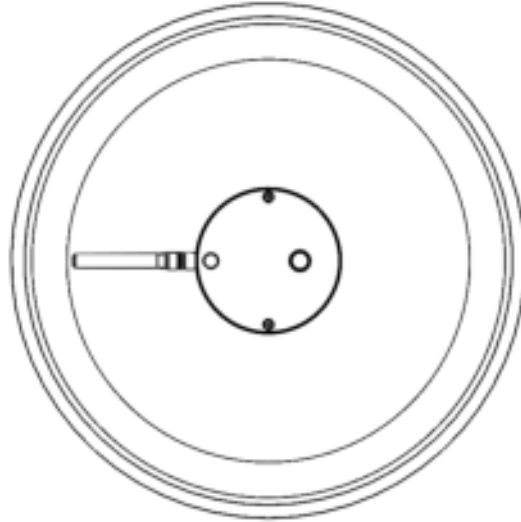


For vertical tanks, the sensor should be installed in the center, bottom of tank as shown.

Place blocks, if needed, under tank to allow adequate clearance for sensor. Sensor should not contact the ground.

Tank should be as level as possible to ensure proper ultrasonic performance.



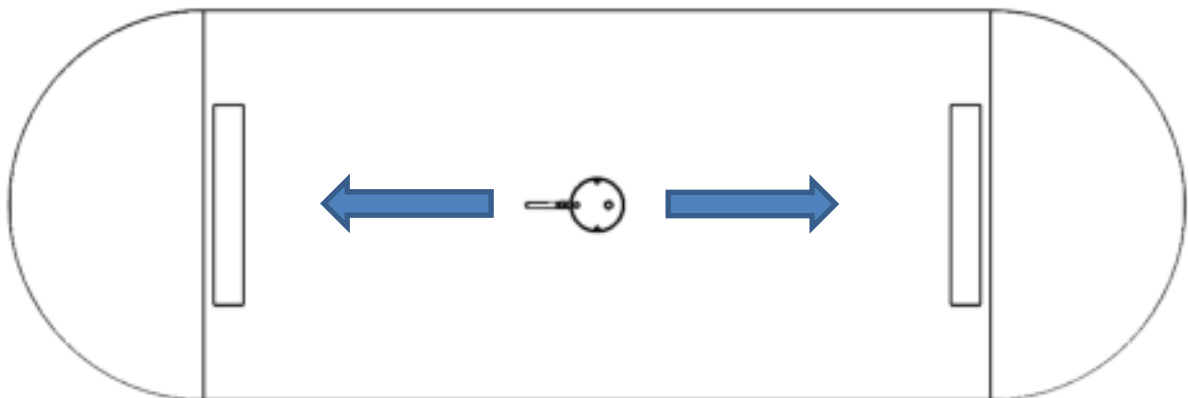


BOTTOM VIEW OF VERTICAL TANK

For horizontal tanks, install sensor on bottom centerline of tank. Sensor should be level to work properly.

Sensor may be installed anywhere along bottom centerline of tank (as indicated by blue arrows below). Older tanks may have a buildup of sludge inside the bottom of tank that can affect sensor performance. Relocating the sensor along the bottom centerline will usually resolve this issue, as there is typically a spot where tank filling will keep one area clear of sludge.

On bulk storage tanks, it is typically recommended to locate the sensor a few feet away from the bottom fill valve inlet, as that area is kept clear of sludge by the filling process.



BOTTOM VIEW OF HORIZONTAL TANK



REVISION TABLE

<u>REVISION</u>	<u>DESCRIPTION</u>	<u>DATE</u>
A	RELEASE	11/12/2021
B	ADDED TORQUE FOR SCREWS	11/12/2021