OTODATA

Installation Procedure

BLE Dial & SureSense Capacitance Sensor

Models: WS10XX, WS2000

Published on: Wednesday, June 3, 2026

Document ID: GRA-0113-EN_005 IM_WS10XX_WS2000 2026-06-03

Copyright

Intended purpose

This guide explains how to install the Otodata BLE Dial (WS10XX). It also covers how to pair both the BLE Dial and the WS2000 SureSense Capacitance Sensor with an Otodata telemetry monitor.

Contact information

Otodata

Head Office

1212 Louvain O.,

Montreal, Qc H4N 1G5, Canada

otodata.com

Support

North America

support@otodata.com

go.otodata.com/support

+1 (514) 673-0244 | +1 (844) 763-3344 (toll-free)

Europe

support@otodata.eu

+48 32 630 41 84

After hours emergency support

6pm to 8am EST

+1 (833) 529-9499*

*Only North America. Only call this number in an emergency.

Table of Contents

Safety and Warnings

WARNING—POTENTIAL ELECTROSTATIC CHARGING HAZARD. Use caution when handling or cleaning product to avoid static charge buildup. Do not wipe with dry cloth; use only damp cloth and let air dry. Do not use or install in high charge areas.

THE INSTALLATION OF THIS DEVICE IS RESERVED ONLY FOR PROPERLY TRAINED PERSONNEL AND MUST BE APPROVED BY THE SAFETY BODY HAVING JURISDICTION. These instructions are made to assist technicians familiar with liquid storage tank equipment. Most consumers are not qualified to perform the installation described herein. If you have any questions concerning installation or operation of this product, contact Otodata or one of our authorized distributors for assistance.

EQUIPMENT IS INTENDED FOR FIXED AND GROUNDED INSTALLATION ONLY.

WIRELESS SENSORS ARE DEPENDENT. A telemetry monitor is required for our wireless sensors to connect to the Nee-Vo Portal.

Before You Begin

This document provides install and software instructions for the WS10XX BLE Dial.

It also covers compatibility with the WS2000 SureSense Capacitance Sensor. Both can be paired to an Otodata telemetry monitor via the Nee-Vo portal. The Otodata telemetry monitor acts as a *cellular gateway* for the BLE Dial.

IMPORTANT: The WS2000 SureSense is not an Otodata product. Otodata does not sell, supply, or install this device.

You will need:

A connection to the Internet (WiFi or cellular network).

Identifying Your Device

We offer multiple BLE Dials which can be identified by the manufacturer's SKU etched on the side of the device.

Use the reference chart below to find Otodata's equivalent SKU.

Otodata SKU	Manufacturer SKU	Product Name
BLE Dials		
WS1011	6318-EH-001	Jr. Dial, European Limits, Screw-In, Horizontal Tank
WS1021	6318-EH-002	Jr. Dial, European Limits, Snap-On, Horizontal Tank
WS1012	6318-EV-001	Jr. Dial, European Limits, Screw-In, Vertical Tank
WS1022	6318-EV-002	Jr. Dial, European Limits, Snap-On, Vertical Tank
WS1013	6318-NH-001	Jr. Dial, North American, Screw-In, Horizontal Tank
WS1023	6318-NH-002	Jr. Dial, North American, Snap-On, Horizontal Tank
WS1014	6318-NV-001	Jr. Dial, North American, Screw-In, Vertical Tank
WS1024	6318-NV-002	Jr. Dial, North American, Snap-On, Vertical Tank
ACRRADAPWSSR	0021-02914	Sr. Adapter Ring for WS10XX Screw-In Jr. Dial
Related Products		
WS2000	6320-XXXX	6320 SureSense TM Capacitance Propane Level Sensor

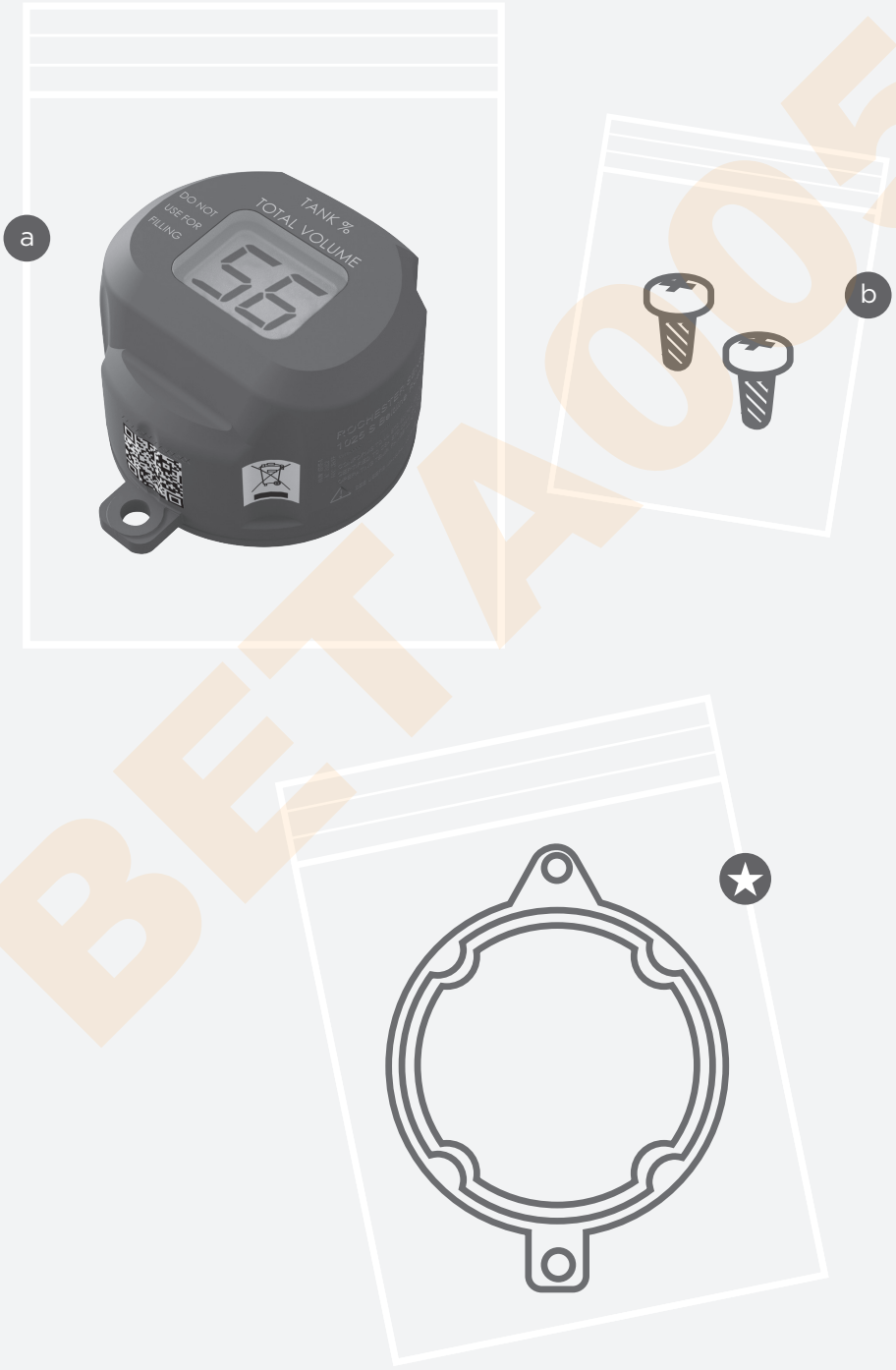
Box Contents

Your kit will contain the following items:

a. One BLE Dial (screw-in or snap-on)

b. Two screws (screw-in model only)

✪ Optional: senior ring adapter (screw-in model), ordered separately. (SKU: ACRRADAPWSSR)



Overview of the BLE Dial

The BLE Dial (WS10XX) provides wireless connectivity between a mechanical float and Otodata's telemetry monitor (TM5240, TM5040, TM5030, etc.).

Its integrated LCD display provides a live tank level reading as a percentage, and is battery-operated and completely autonomous.

Available in snap-on and screw-in formats, the WS10XX is broadly compatible with most floats and can be used in lieu of a traditional mechanical dial. The unit contains no serviceable parts.

How It Works

The dial reads the float's position in-tank and broadcasts the level reading to its designated telemetry monitor via BLE. Otodata's telemetry monitor then transmits the data to the Nee-Vo Portal via cellular network.

The dial's display updates with every new measurement. Thanks to its Fill Detect capability, the dial can detect when a fill is in progress and will display level increases every second until the fill is complete, exiting Fill Mode automatically once done.

Key Features

- Acquires a new level reading every 30 seconds, and every 1 second when a fill is detected
- Broadcasts level reading every 2.4 seconds via BLE to telemetry monitor
- Digital display shows tank volume in 1% increments
- System accuracy of +/- 2%
- 10-year battery life
- Up to 8 meter operational range
- Excellent mechanical properties and chemical resistance due to nylon housing
- No exposed sensing elements (all components are located on the PCB inside the housing)
- IP6K9K rated ingress protection
- Over-the-air firmware update capability
- Snap-on or screw-in models available
- Horizontal and vertical tank compatible models available
- Compatible with floats that have junior-size dial seats (1.5″)—Adapter available for senior-size dial seats

LCD Status Indicators of the BLE Dial

Output	Description
	**bL: Battery Low**—Battery is estimated to be within 1-2 years of expected end-of-life. The measured level on the LCD display will alternate between this code and any applicable warning codes.
	**bC: Battery Critical**—Battery is estimated to be < 1 year of expected end-of-life. The measured level on the LCD display will alternate between this code and any applicable warning codes.
	**Er: Device Error**—Device is not functioning correctly and electronics should be replaced. The level will be set to 0% and alternate with this code.
	**Lo: Low or Low-Low Warning**—Tank level is below expected operating range: Tank Level < 5% (for EU products the LO warning level is 20%).
	**Hi: High or High-High Warning**—Tank level is above expected operating range: Tank Level > 95%.
	Float Out of Range—Float arm position is out of range and the sensor cannot determine a meaningful number.

Environmental Ratings

Parameter	Rating
Operating Temperature Range	-40–80°C (-40–176°F)
Typical Module Accuracy	<1% level
UV Withstand	600 hrs, UVA-340 at 0.76W/m2, 65°C (149°F)
Vibration	Mil STD-810: 5 Hz, 12.7mm Amplitude, 1G, 45 minutes

Installation Instructions

The installation of this device is reserved for properly trained personnel only and must be approved by the safety body having jurisdiction.

1. Hardware BLE Dial Installation (WS10XX Only)

a. Remove the existing dial from the float head.

b. Clean the empty float head of all foreign debris or liquid. The magnetic particles found in dirt and dust may impact the accuracy of the dial's reading.

c. Remove the BLE Dial from its packaging.

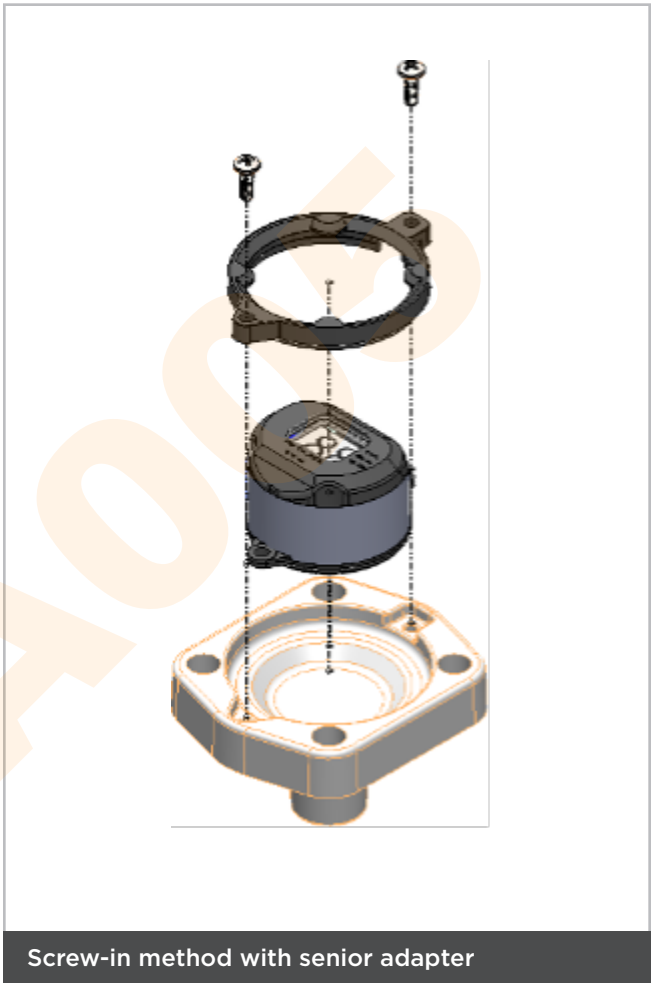
d. Install the dial:

i. Snap-on dials: Position the dial's alignment key over the slot on the float head. Press into place until all four latching tabs snap onto the float head.

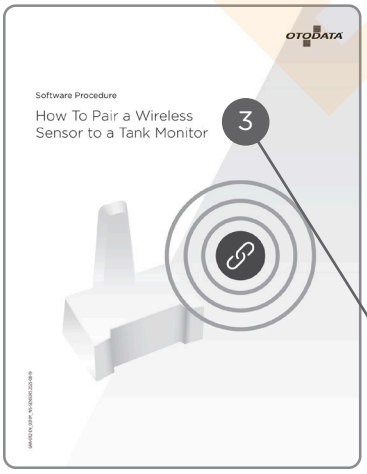
ii. Screw-in dials: Align the dial's round and rectangular ends with the corresponding impressions on the float head. Install the screws using hand tools only as not to damage the plastic fittings.

Note: If senior dial required: Slide the adapter ring (SKU: ACRRADAPWSSR) onto the BLE Dial. Then follow *step d.ii* above to complete installation.

e. Verify the LCD on the dial is displaying the appropriate level. This may take up to 1 minute.



Screw-in method with senior adapter



2. Pair your BLE Dial with an Otodata Telemetry Monitor (required for WS10XX and WS2000)

Pair the BLE Dial to its designated Otodata telemetry monitor.

Note: The monitor acts as a *cellular gateway* for the BLE Dial. The BLE Dial relies on the telemetry monitor to send readings to the Nee-Vo Portal.

To access the pairing guide, follow these steps:

1. Visit www.otodatatankmonitors.com/docs
2. Select WS10XX from the product list
3. Then, click the How to Pair Wireless Sensors button to download the guide and follow the steps indicated.

WS10XX BLE Dial & WS2000 SureSense Capacitance Sensor

IMPORTANT Before proceeding, ensure you have done the following:

i. Noted the outer dimensions of tank—*Width* and *Depth*.

Note: If the tank is single-walled, dimensions should be measured from wall-to-wall. If the tank is double-walled or manifolded, you will need to measure dimensions from the welding line to the tank's wall.

ii. Noted the tank's *Height*—measured by dip stick for maximum accuracy.

iii. Paired your wireless sensor (BLE Dial) to your telemetry monitor (TM device) and verified that the status is OK.

Should you require more information, refer to the "How to Pair a BLE Device with an Otodata Monitor" guide.

1. Tank Setup and Configuration

a. In the Nee-Vo Portal, select Tanks in the main menu, then Devices.

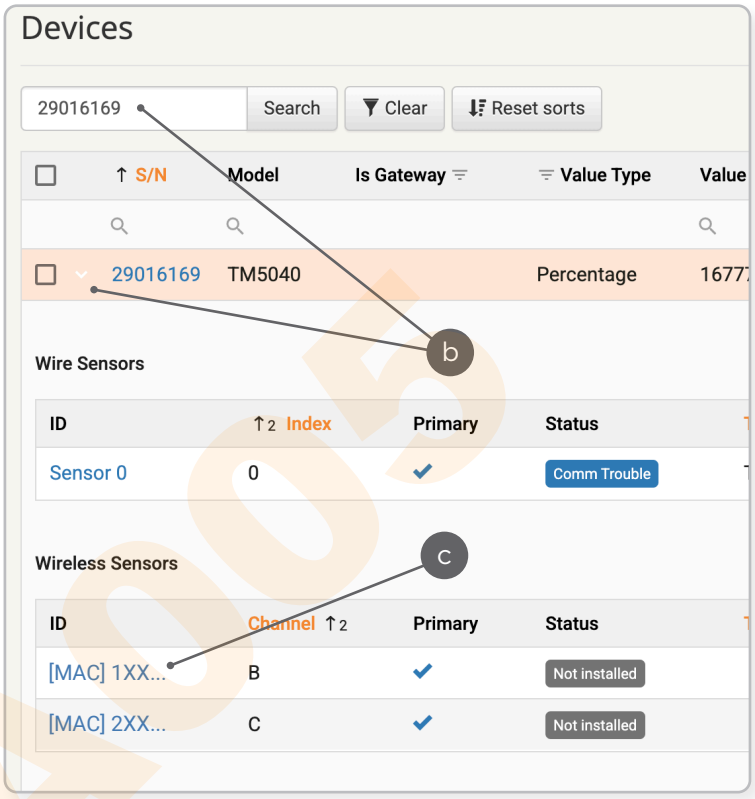
b. Enter the monitor's (TM) serial number (S/N) into the search bar located in the upper left corner of your screen, and click Search.

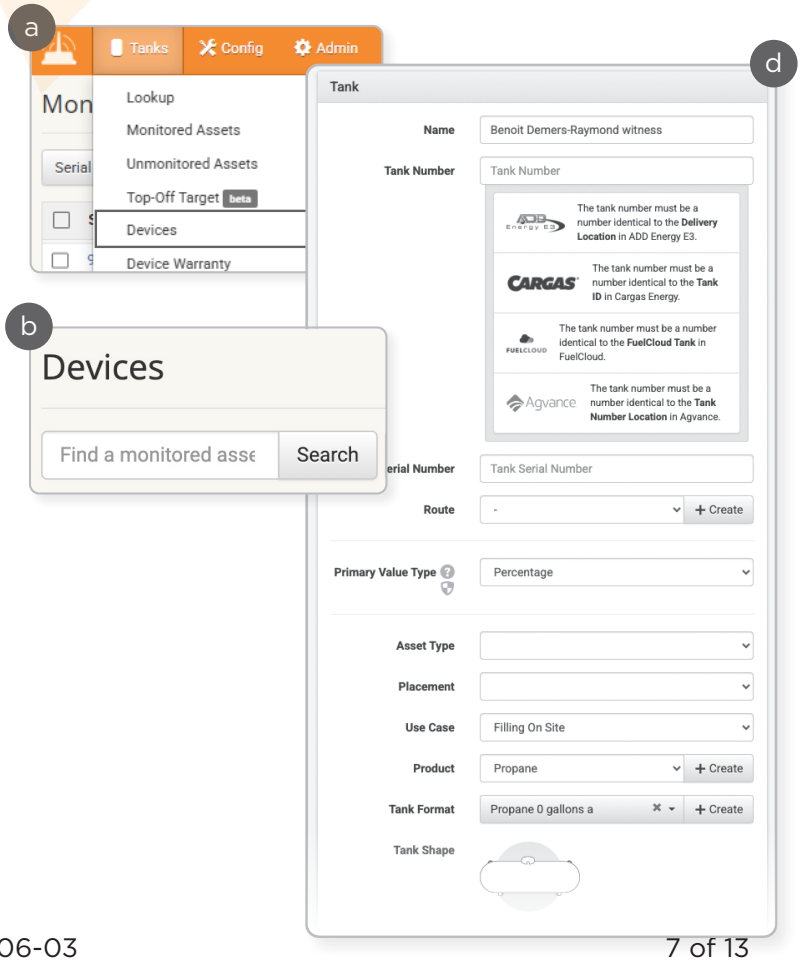
Once found, click the arrow icon to the left of the serial number (S/N). This will open the *Connected Sensors* drawer.

c. In the *Connected Sensors* drawer, click the BLE Dial's ID (MAC address) to open the *Edit* page.

d. Scroll down to the *Tank* section and carefully input all necessary information such as the tank's serial number, the tank's format, the product in-tank, its location, and more.

Note: If you cannot find an accurate option in the *Tank Format* dropdown list, you will need to create a custom tank shape. See following step.





1.2. Creating a Custom Tank Shape

In the event that you are required to create a custom tank shape because no accurate formats exist, follow the steps below.

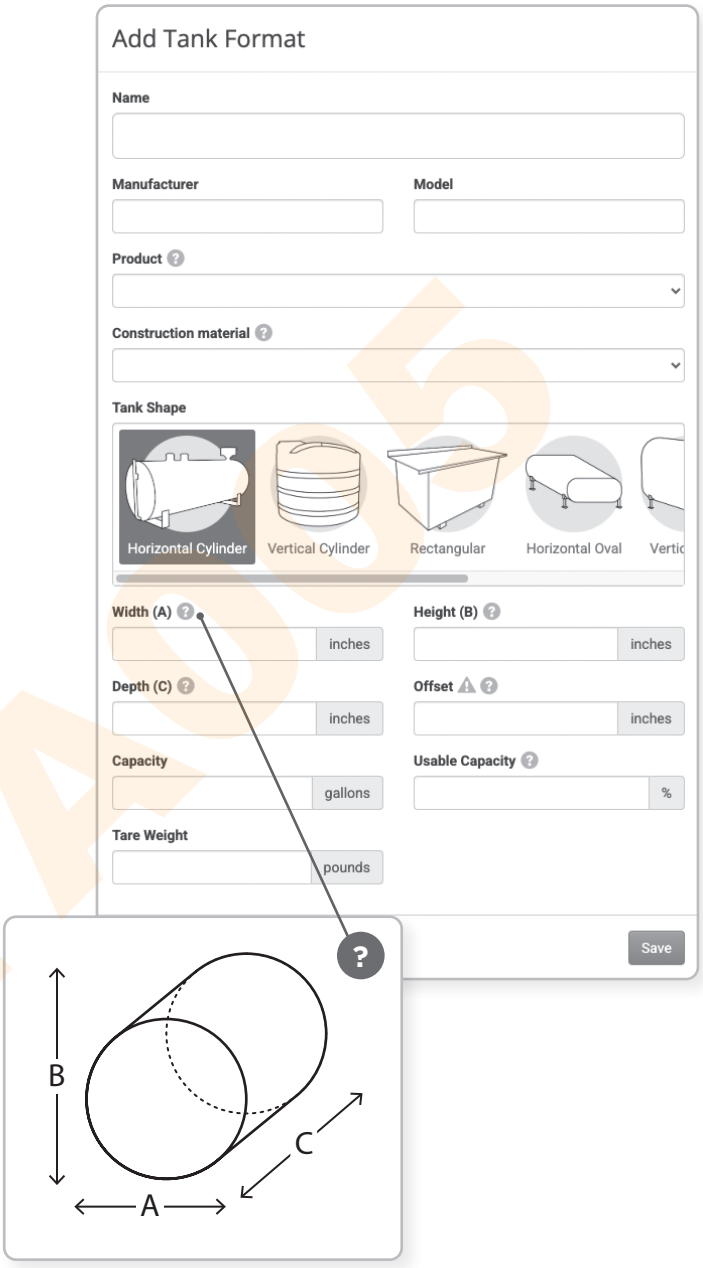
a. On the tank's Details page, click the Create button to the right of the Tank Format dropdown list, or click Config from the main menu, then Tank Formats.

b. On the Tank Formats page, click the Create a tank format button to the upper right of the screen.

c. On the tank format creation screen, input all pertinent information including the tank's Construction Material, its exact dimensions and a Tank Shape.

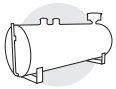
Note: Upon saving your new tank shape, some content will be permanently locked and unable to be edited (such as the Product and Construction Material fields). If you accidentally input the wrong information in a locked field, you will need to create a new Tank Format.

IMPORTANT Inputting a Product will make your tank shape exclusively available to tanks that are associated to that product. Example: If you choose Propane from the product dropdown list on the Tank Format creation screen, the tank shape will only appear as an option for tanks that are filled with propane. To avoid this, you may leave this field blank.



Available Tank Shapes

When creating a custom Tank Format, you can use the following Tank Shape templates as a starting point.



Horizontal Cylinder

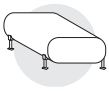
Width and Height are usually the same measurement.

Vertical Cylinder

Width and Length are usually the same measurement.

Rectangle

Cube, rectangular vertical, or rectangular horizontal shaped tanks fall into this category. Note: Miscategorizing a rectangular tank as a horizontal cylinder will negatively impact the accuracy of the monitor's reading. Please avoid doing so.



Horizontal Oval

Height will be the smallest measurement. Note: Width can sometimes be the longest measurement for this tank shape.

Vertical Oval

Width will be the smallest measurement. Note: Height can sometimes be the longest measurement for this tank shape.

Horizontal Capsule

Dimension A: Diameter of the capsule, Dimension B: Radius of end cap, Dimension C: Total length end-to-end of capsule.

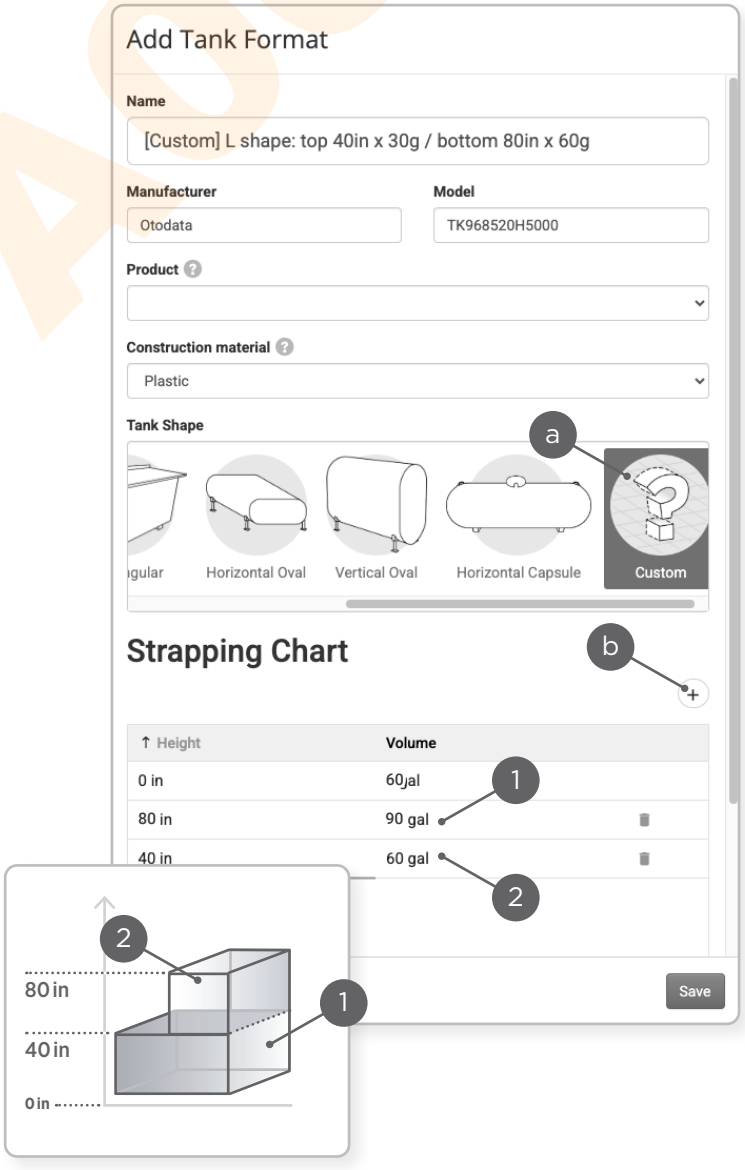
How to Create a Custom Tank Shape

For irregular shaped tanks, you will be required to create a custom shape.

a. In the Tank Shapes section, select Custom from the list.

b. In the Strapping Chart section, click the plus button above the table to create a new row and input the tank's Height and Volume (capacity) for each distinct section of the tank. Example: Top section 1, Bottom section 2.

c. Once done, click Save.



2. Review Level Data Report to Validate Installation

Note: The first report will be available within 24-hours of installation. Reports include hourly readings.

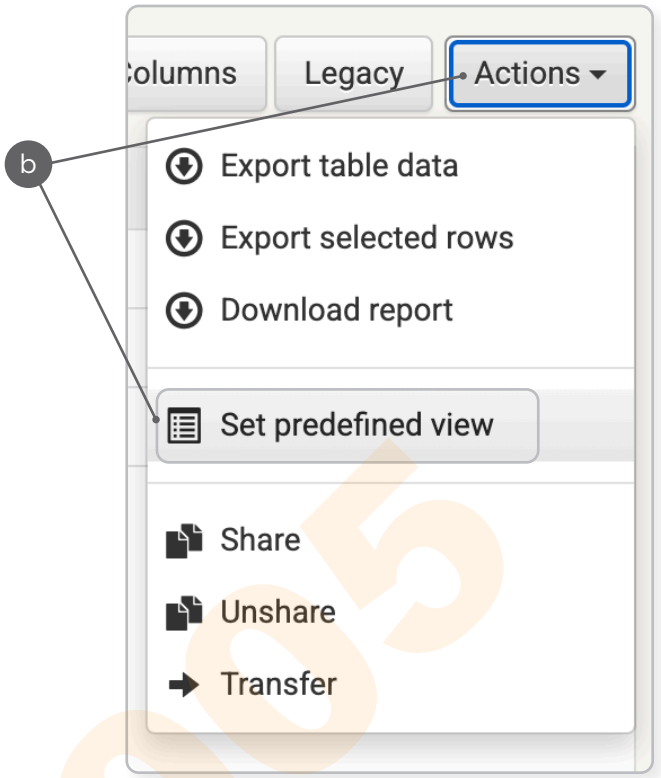
a. Log into your Nee-Vo Portal account and navigate to Tanks > Monitored Assets.

b. Ensure your *Predefined View* is set to *Level Sensors.*

i. Click on the Actions menu to the right of the screen.

ii. Click Set predefined view.

iii. Select Level Sensors, then click Confirm.



c. Search for your paired devices:

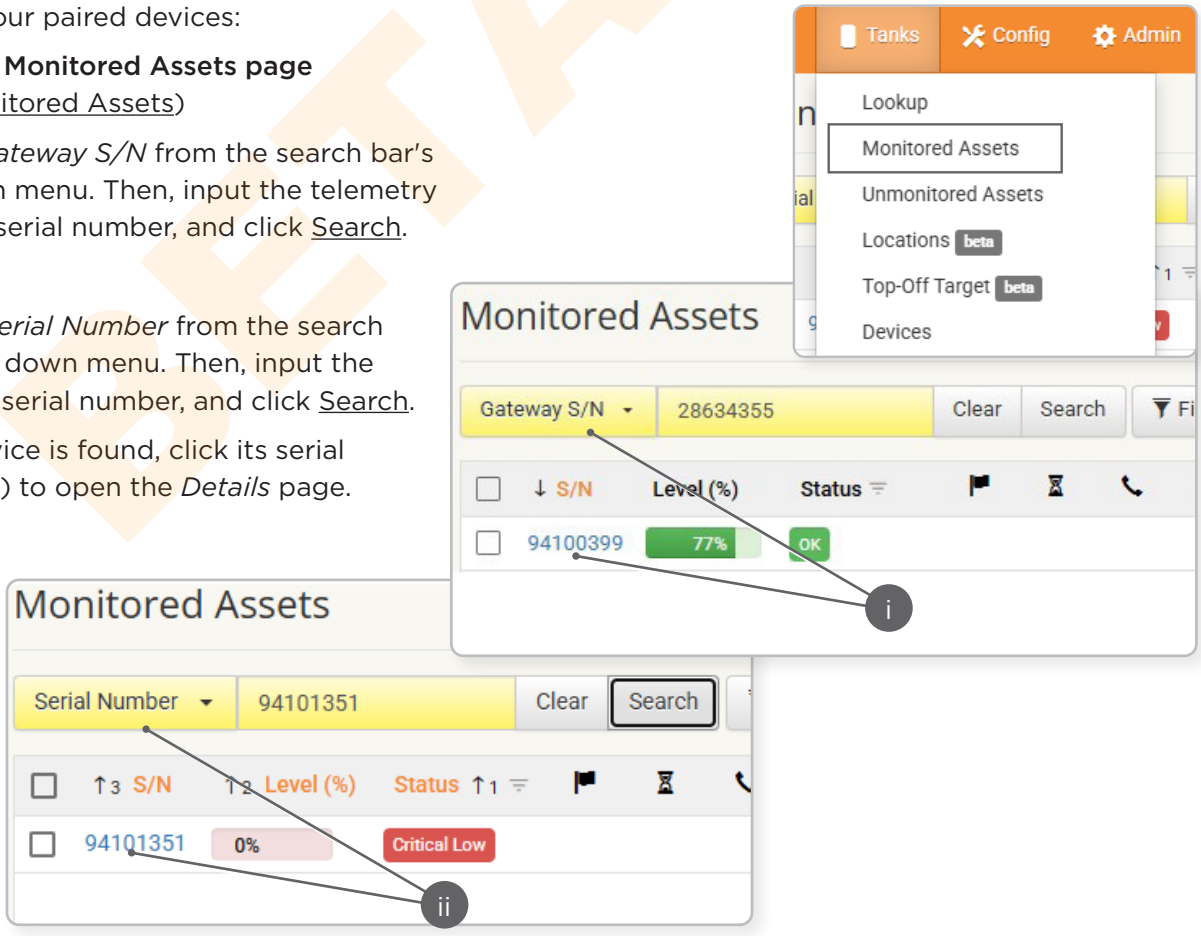
Option 1: Via Monitored Assets page (Tanks > Monitored Assets)

i. Select *Gateway S/N* from the search bar's drop down menu. Then, input the telemetry monitor's serial number, and click Search.

or...

ii. Select *Serial Number* from the search bar's drop down menu. Then, input the BLE Dial's serial number, and click Search.

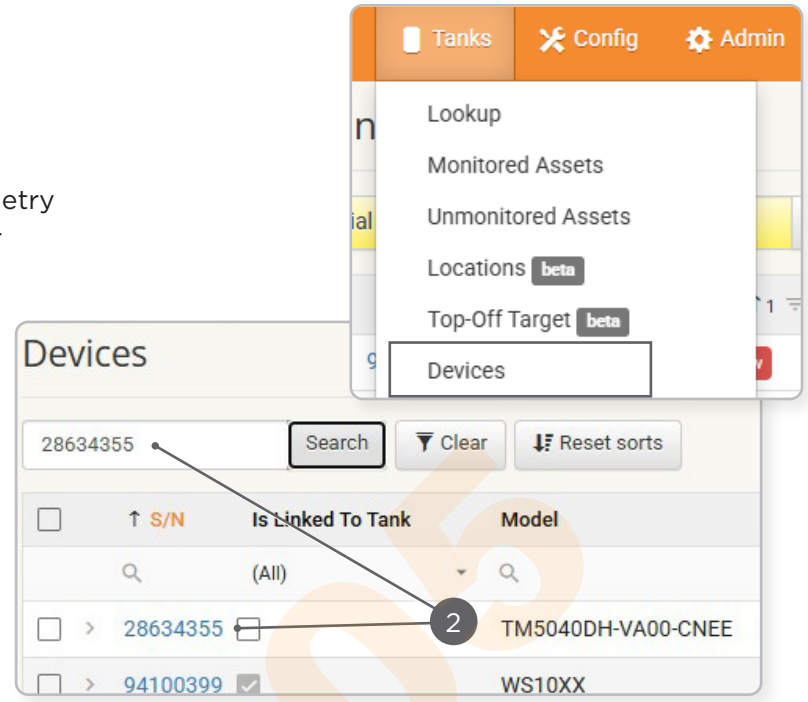
Once the device is found, click its serial number (S/N) to open the *Details* page.



Option 2: Via Devices page
(Tanks > Devices)

Enter the BLE Dial's serial number or telemetry monitor's serial number into the search bar and click Search.

Once the device is found, click its serial number (S/N) to open the *Details* page.

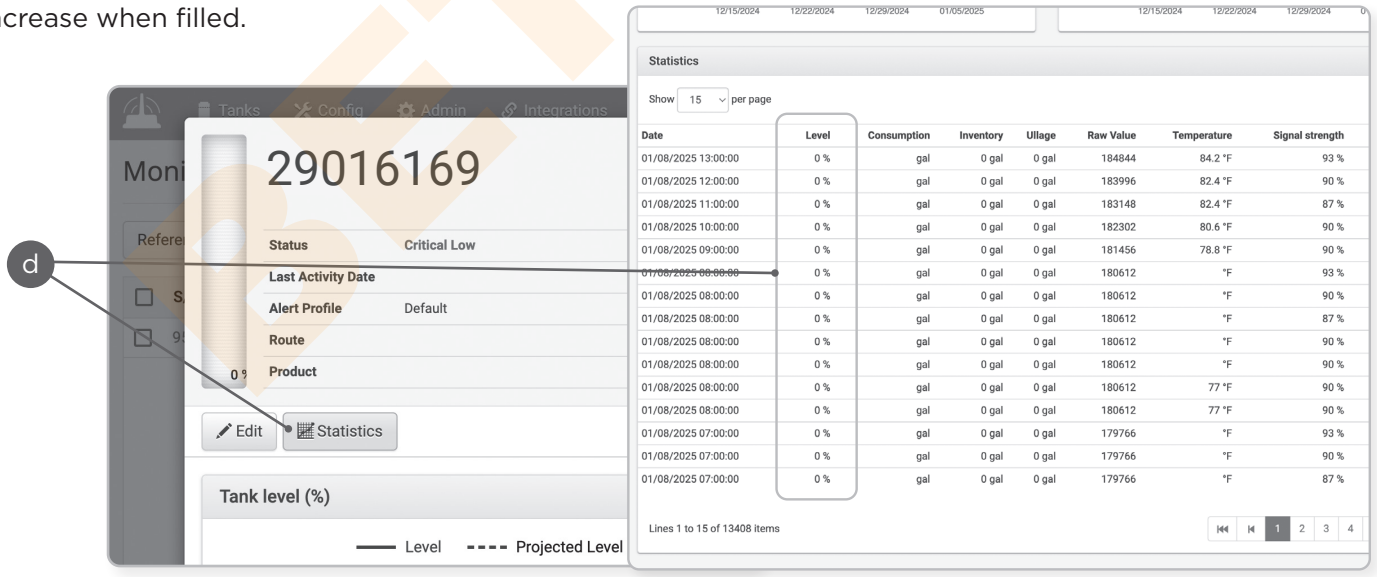


d. Review Tank's Statistics.

i. On the *Details* page, click the Statistics button.

ii. Scroll down to the *Statistics table* to see a detailed list of all received readings.

A successful installation will produce decreasing Level (%) readings and a sharp increase when filled.



Members can watch step-by-step installation videos and shop online

Sign up free today

otodatatankmonitors.com/membership

Members can purchase monitors and accessories like gauges, leads, mounting equipment and more via our online store.

IMPORTANT

Please take a moment to carefully read the installation instructions included with your monitors, and ensure you understand and respect local regulations.

ABOVE-GROUND TANKS

Do not install monitors under lids.

UNDERGROUND TANKS

Plastic lid suggested. Metal lids will obstruct signal.

Reading installation instructions will ensure maximum monitoring performance on all your tanks and installations.