

iRadar® based Tank Level DELTA



LASSO.COM 8150 N Central Expy, Ste 2000 | Dallas, Texas 75206 866-392-0923 July 1, 2026

iRadar® DELTA

Tank Level Monitor - Quick Start Guide

INSTALL • PROGRAM • VERIFY • REPORT

IMPORTANT: This is an abbreviated field guide. Follow the full iRadar DELTA manual and site safety procedures for complete requirements.

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1. Before You Install

Mounting essentials

- Mount the iRadar on top of the tank with the lid facing the sky.
- Keep the enclosure parallel to the liquid surface so the radar beam hits the fluid perpendicularly.
- Do not mount too close to the tank wall or directly over internal obstructions.
- Radar normally reads through plastic tanks; performance depends on wall thickness and the chemical being measured.
- Keep the radar path direct, smooth, and clean. Multiple fittings, T-fittings, and long narrow standpipes can weaken or distort the echo.
- Try to limit pipe standoff height to about 10 inches.
- After confirming operation, secure with bonding tape, small screws, flange, or NPT adapter as appropriate. Do not block the radar beam.

TIGHTEN THE ENCLOSURE LID. The manual specifies 20 in-lb torque; moisture entry can damage the iRadar.

MECHANICAL INSTALLATION



- Mount Radar on top of tank.
- Radar will typically penetrate plastic containers to measure fluid depth.
- Dependent upon plastic thickness and chemical being detected.
- Do not mount iRadar too close to wall of tank or over any obstructions in tank.
- Test location by pressing wake button.
- Clean area with isopropyl alcohol (IPA) and water solvent if you use the 3M tape.
- Use optional mounting flange if Frac or ISO tank.



Use Bubble Level to confirm that iRadar is level so beam hits the fluid perpendicularly



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2. Quick Installation

1. Place the iRadar in the intended mounting location and confirm it is level.
2. Press WAKE EARLY. If there is no response, turn the unit on with the red slide switch under the cover.
3. Watch the display for DISTANCE TO FLUID and SIGNAL STRENGTH. Move or level the unit until the reading is reasonable and stable.
4. Measure the actual fluid depth with a ruler. Preferably perform setup with the tank roughly 10%-70% full (the manual also notes setup should be below 80% full).
5. Set the tank type, then set the measured fluid depth. Setting depth automatically establishes related values such as Distance to Bottom and Ignore distance.
6. Set reporting wake times and GPS interval.
7. Wake the unit again and verify displayed depth/gallons before permanently securing the iRadar.

Do NOT change Distance to Bottom just to make gallons look correct. Set the actual fluid depth and tank geometry correctly.

QUICK INSTALL

This is an abbreviated setup. Please read the entire user manual first.
All values can be changed with keypad or SmartPhone. Call Lasso if needed.



Mount Radar on top of tank.
 Confirm that it is level to the ground using bubble .

Press Wake early button.

If no response, turn iRadar on using red slide switch under cover.

TO FLUID=12.4"
SIGNAL=32%

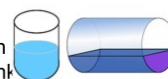
Observe the Distance to Fluid and Signal Strength the radar sees while running.

- 1 **Gallons/inch 8.0**
- 2 **ABC Company tank**
- 3 **Custom Tank**

Select 1 of 3 tank styles you will use:

- 1=Symmetrical tank with Gallons per inch
- 2=Custom tank dimensions horizontal tank
- 3 or more=Look up table that you have provided.

Smartphone command is **T?** then **Tx** where x is your tank.



Distance to Bottom 37.2"

Distance to Bottom should be set automatically when you set depth. Do not adjust Distance to Bottom to adjust gallons. See next page for details.

REPORT 7:00 ON

Adjust the Wake Time to make reports.
 Smartphone Command is **W,7,12,16,20**

GPS 340min=6hr ?

Adjust the GPS interval. Command is **GPS340**

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3. Program the Tank

Choose the tank calculation method

Command	Purpose	Example / Note
T1	Linear tank - constant gallons per inch	Then set GPI, e.g. GPI12.3
T2	Horizontal cylindrical custom tank	Set length L and diameter M
T<number>	Customer strapping chart	Use T? to list available tank tables
D<depth>	Set current measured fluid depth	Example: D54.0 sets 54.0 in

Typical setup sequence

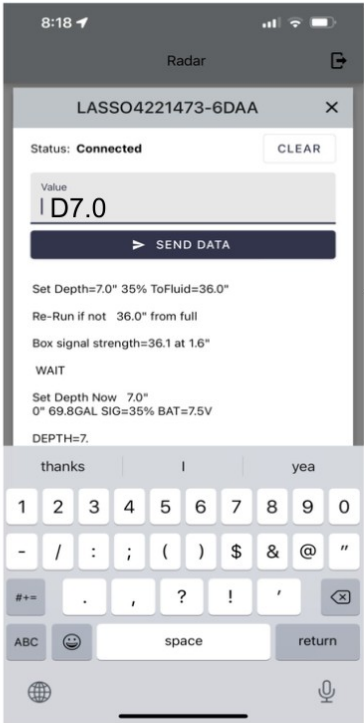
8. Send T? to see available tank choices.
9. Select the tank: T1, T2, or the supplied strapping-chart number.
10. For T1, enter gallons/inch with GPI. For T2, enter tank length L and diameter M.
11. Measure the actual fluid depth and send D<depth>.
12. Review the returned Distance to Fluid and Signal Strength. If the measured distance is not plausible, correct the mounting before continuing.

The manual states that depth setup also sets Distance to Bottom and the Ignore region. Use BOT/BO only when the physical bottom distance truly needs correction.

4. Smartphone / Bluetooth Setup

- Use the Lasso programmer/mobile app Bluetooth connection to communicate with the iRadar. Bluetooth programming does not require a portal login in the manual.
- Select the iRadar by its serial number / Bluetooth identifier, connect, enter a command, then press SEND DATA.
- Commands are not case sensitive.
- Send H for help and T? to list tank choices.

iRADAR APP SEND COMMANDS



SEND INSTALLATION COMMANDS TO THE iRADAR. COMMANDS ARE LISTED ON THE NEXT PAGE.

USE **SEND DATA** BUTTON
CLEAR SCREEN IF NEEDED.

EXAMPLES:
T1 SETS TANK TO GAL/INCH
T? LISTS ALL LOOKUP TABLES
D7.0 SETS DEPTH TO 7.0"
GPS360 SEND GPS EVERY 6 HRS.
GPS? RETURN GPS INTERVAL HRS.
H HELP SHOW ALL COMMANDS
W,8,20 WAKE AT 8AM AND 8PM
BOT120.1 DISTANCE TO BOTTOM
I10 IGNORE TOP 10" READINGS

SLEEP FOREVER

- 'Sleep forever' to keep from transmitting when your tank will sit in the yard for extended time. Press Wake button right before it sleeps to 'sleep forever'. Press Wake again to turn it back on.
- Transmit every 5 minutes. Adjustable using Bluetooth DATA5 command, where 5 is adjustable 5-59 min. 0 turns off interval and uses time of day instead of interval.

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Common commands

Command	Purpose	Example / Note
D7.0	Set current fluid depth	7.0 in
GPS360	GPS interval	360 min = 6 hr
W,8,20	Scheduled reports	8 AM and 8 PM
BOT120.1 / BO120.1	Distance to tank bottom	Use only when physically correct
I10	Ignore top region	Ignore first 10 in
SD	Send data now	Immediate data test
SG	Get/send GPS now	Immediate GPS test
Q	Sleep forever	Wake button resumes

5. Keypad & Normal Operation

Normal operation

Command	Purpose	Example / Note
UP	Send data now	Field transmission test
DOWN	Get GPS then send GPS	GPS test
UP + DOWN	Factory reset	Use only when intended
UP + DOWN + SET	Shipping sleep	Sleep for shipment/storage
WAKE EARLY	Wake unit / test reading	Also used before sleep for special sleep behavior

Programming mode

- Hold the black SET button for about 5 seconds to enter programming mode.
- Use UP/DOWN to change values and SET to move through settings.
- Typical items include current depth, Ignore First distance, GPS interval, reporting hours, Distance to Bottom, tank type, and gallons/inch or custom tank dimensions.

Radar cannot measure extremely close to the sensor. Use the Ignore First setting only to reject false echoes near the top of the tank.

WHILE IN NORMAL OPERATION
 UP=send data now
 DOWN=get gps then send gps
 UP+DOWN=factory reset
 UP+DOWN+SET=sleep shipping

Press Wake button continuously before sleep.
 Wait for "Sleep Forever" prompt.

OR Hold Wake button Continuously before Sleep until Reboot occurs.

Release Button

Ignore First 4 in

Set Depth To 25.2"

Set Depth=25.2" 78% To Fluid=16.3"

To Bottom 37.2in=3.1ft

GPS Interval 340min=6hr

Linear Tank

Gallons/inch 8.0

ABC Company tank

Custom Tank Diameter + Length

Tank Length 220"

Tank Diameter 93.2"

Press UP to change thresholds

Press UP to change Wake Times

REPORT 7:00 ON

REPORT 13:00 OFF

TEACH

ON button is same as wake early button on side of box.

Press for 5 seconds to enter Programming mode

Scroll numbers up. OR Send Data Now Test

Scroll numbers down. OR Send GPS Now Test

Reset will reboot but parameters are stored in flash memory.



Press black SET button for 5 seconds.

Radar cannot see closer than 4 inches so ignore top of tank. Increase IGNORE if you get false readings near top of tank. *

Fluid should be in the tank to adjust the depth. Measure current depth of the fluid using a ruler. Adjust to current Depth

Results of Depth setting. % Signal strength. Distance to fluid during depth setting. Also sets Ignore and Distance to Bottom.

Used to determine when tank is empty and to limit settings. Set automatically when depth is set *

GPS coordinates will be sent every 6 hours.

Select a Linear Tank with a constant Gallons/Inch, a horizontal cylindrical tank or a tank using your strapping charts. Gallons per inch to convert depth to gallons. Linear Tank=1.

If the iRadar has your strapping charts, you will have the option of selecting your tank. Scroll through to find your tank. Tank>2

Select a custom tank then enter the Length and Diameter if strapping charts are not in the iRadar and you are not using Gallons Per Inch. Tank=2 when programming custom tank.

Press UP if you want to change thresholds as described on the next page. See Appendix for details. Rare commands are also here.

Press UP if you want to scroll through 24 hours and flag if you want it to report at that hour.

Set option to send data at any of 24 hour times. ON transmits at that hour. OFF ignores that hour. Go through all 24 hours using black button. Use UP DOWN. Here it will send at 7:00 AM.

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6. Verify a Good Installation

Before leaving the site, verify all of these

- Distance to Fluid matches the actual tank condition.
- Signal Strength is strong and stable. The installation-rules page recommends 30% or more; the error page says redo depth setup if signal is below 20%.
- The enclosure is level / parallel to the fluid.
- Depth and gallons are reasonable for the known tank contents.
- Battery voltage is at least about 6 V; the manual says replace/check the battery below 6 V.
- A data transmission succeeds, and GPS is obtained if GPS reporting is required.
- The lid is fully tightened and the final mounting does not block the radar beam.

If Distance to Fluid is wrong, Depth and Gallons will also be wrong. Correct the radar location/angle before changing calibration values.

INSTALLATION RULES



Beam width is 8 degrees. Narrow long pipe does not allow a strong echo back to the iRadar.

Path to fluid should be direct, smooth and clean.

Multiple fittings and T fittings can distort the iRadar signal.

A weak signal will cause measurement errors.

Distance is only taken the first 5 seconds of when it wakes or turns on. Observe the **DISTANCE TO FLUID** and **SIGNAL STRENGTH**. If this is wrong, Depth and Gallons will be wrong.

Make sure that Distance to Fluid is reasonable (like 24" or more) and that signal strength is 30% or more.

Try to limit pipe standoff to 10 inches height.

Tighten the lid or moisture will damage the iRadar!

BEST LOCATION ON YOUR TANK

- Press and Hold **WAKE EARLY** button and observe Distance to fluid distance and signal strength. **BOX MUST** be parallel to fluid.
- Try various locations for best % strength.

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7. Display Messages & Fast Troubleshooting

Command	Purpose	Example / Note
NO RADAR SIGNAL / IS RADAR LEVEL?	Weak/no usable echo	Level the enclosure; move to a clearer location; check signal strength.
RADAR NOT CONNECTED	Radar sensor not detected	Check power/battery; manual notes weak voltage as a likely cause.
NEED TO SET DEPTH	Depth not programmed	Measure actual fluid depth and set D / keypad depth.
TO BOTTOM WRONG / REPROGRAM DEPTH	Bottom geometry is inconsistent	Re-run depth setup; verify actual tank height/bottom distance.
STRONG DEEP ECHO / CHECK DIST 2 BOT	Strong echo exists deeper than configured bottom	Verify Distance to Bottom; increase only if physical tank geometry supports it.
Signal Weak	Low echo strength	Re-level or move iRadar; redo setup after signal improves.
Wait to get GPS	GPS acquisition in progress	Give the unit clear sky and time to acquire.

Useful display information

- Depth and gallons are shown locally on the OLED display.
- Temperature and battery voltage may be displayed, along with ESN, GPS status, send status, and next sleep/report interval.

8. Cloud Portal - Minimum You Need

- Sign in to the Lasso Cloud Portal with your email and password.
- Assets (Map) shows devices by status: green = OK, yellow = Warning, red = Alert/Issue, black = No data/offline.
- Open an asset to review Overview, Metrics, Locations, and tank Visualization when configured.
- Use the timeframe selector if charts appear empty or you need older data.
- Alerts can be configured for conditions such as thresholds and idle/location conditions; recipients and schedules must be enabled correctly.
- If an asset is offline, verify power, correct ESN/account, expected reporting interval, and clear sky for satellite units.

For satellite operation, metal structures, containers, railings, or other obstructions can prevent messages. Reposition for a clear view of the sky.

9. Final Checklist & Support

Commissioning checklist

- ☐ iRadar mounted level and parallel to fluid
- ☐ Radar path clear of tank wall/obstructions
- ☐ Distance to Fluid verified
- ☐ Signal strength acceptable and stable
- ☐ Correct tank type selected
- ☐ Actual fluid depth programmed
- ☐ Gallons / tank geometry verified
- ☐ Wake/report schedule programmed
- ☐ GPS interval programmed if required
- ☐ Test data message completed
- ☐ GPS test completed if required
- ☐ Lid tightened and mounting secured

Important safety / service notes

- Do not use Lasso equipment where transmission errors or product failure may cause environmental issues or injury.
- Do not return an iRadar with lithium batteries installed. Lithium batteries require proper shipping packaging and labeling.
- Intrinsically safe status applies only when the product is specifically labeled for it.

Support

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Use the full iRadar DELTA manual for detailed programming, specifications, certification, and advanced features.