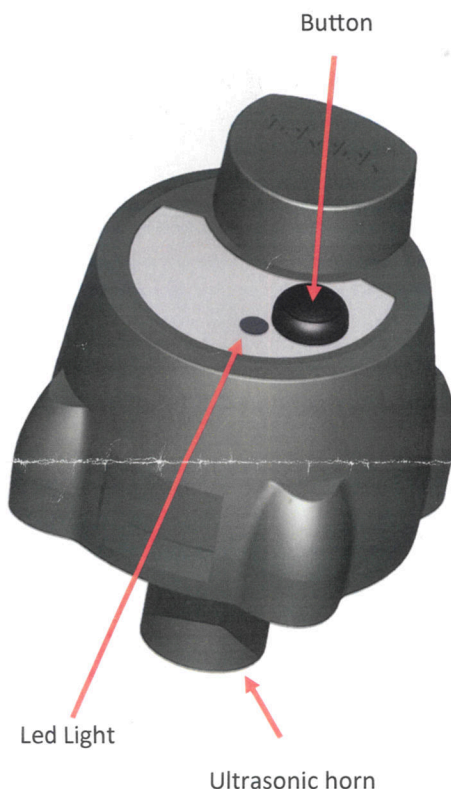


TEK766 Tank Monitor

Installation Sheet

Thank you for purchasing the Tank Sensor.

This device uses ultrasonic technology to measure the liquid level of your tank, and then sends the information to your fuel oil supplier via the nationwide LoRaWAN network.



STEP 1: Test that the LoRa™ network is within RF range
This should occur before the monitor is physically fitted onto the Tank.

- Place sensor on or close to installation location.
- Press the button for 1 second to connect to the LoRa network and upload a status message.
- The LED will light up solidly:
 - - Unit is registering + connecting for the first time.
(Unit is shipped in dormant state).
 - - Unit is already registered .

The connection process will take approx. 20 - 40 seconds.
- After the connection has completed, the LED will flash (to indicate whether the connection was a success or failure).
Please review the LED flash codes overleaf *

Set the device back in Sleep mode for re-join:

- Press and hold the button until the LED will light up RED solidly (>5 seconds).
- Release the button, the RED LED will flash quickly.
- Press and hold the button until the GREEN LED will light up solidly.
- Release the button, the LED will blink once GREEN then once RED and go out.
- Follow the description on STEP 1 to re-join

Technical Specifications

- ◆ Supports LoRaWan 125 / 250 KHz bands.
- ◆ Wireless frequency: 868MHz
- ◆ Fits onto tanks with a 2", 1 1/2" or 1 1/4" threaded opening. 2" recommended.
- ◆ Power output nominal 14dBm
- ◆ Tank depth measurement: 12cm—400cm

* For weak RF signal, use a monitor with an external RF antenna . This antenna should be elevated and clear of near obstacles for best performance. The antenna's require mounting on a metal magnetic surface for best performance.

- ◆ Typically 10+ years battery life using 3.6v Lithium cell
- ◆ Operational temperature range -20....+50° C
- ◆ Dimensions 118mm x 90mm. Weight 250g

STEP 2: Attaching the monitor to your tank.

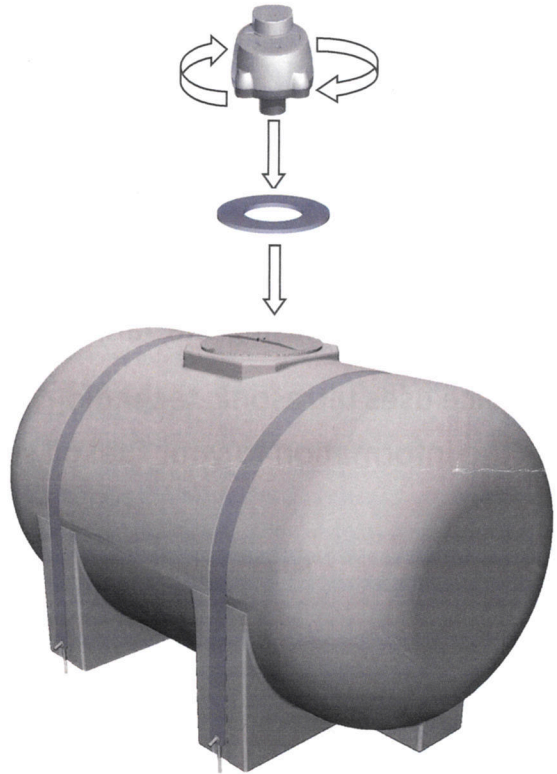
- Identify a spare threaded opening (typically 2"). Remove and store the cap.
- Ensure the opening is located away from the sides of the tank, and is clear of internal obstructions to ensure a good quality ultrasonic reading.
- Ensure the rubber seal is placed between the opening and threaded adapter.

NOTE: For underground tanks, additional sealing might be required. Contact factory for more details.

NOTE: Self-amalgamating tape is required to seal external antenna RF SMA connections.

- Screw the monitor clockwise into the threaded opening. Additional thread options are available.

DO NOT OVER-TIGHTEN THE SENSOR







STEP 3: Manually testing monitor.

Once the unit has been installed successfully, it is recommended to force a manual connection 4-5 times to test the reliability of the RF signal.

- Press the button for 1 second, until the LED turns green.
 - Wait approximately 10-20 seconds observe if the LED flashes green or red.
 - Green flashes indicate a successful test connection and data transmission.
 - Red flashes mean an unsuccessful connection.
- See below for description of Green/Red LED flash codes.

LED RF Signal Strength Flash Code




After a manual transmission is successfully completed, the monitor LED will flash GREEN to indicate RF quality:

-  X 3 Flashes: Excellent signal quality
-  X 2 Flashes: Good signal quality
-  X 1 Flash: OK signal quality
-  Alternate Flash: The RF signal is weak. It is suggested to try 5 times and if this response is stable then OK.

If the sensor shows double red flashes during this trial - then an external antenna should be tried.

LED Error Flash Code

If a manual transmission fails to connect successfully, the red LED will flash the following code:

-  X 1 Flash: LoRaWan network Join Fail. The unit may not be registered on the network. Contact supplier.
-  X 2 Flashes: No Response from Network. Occurs if unit is not registered, no RF reception or response timeout
-  X 3 Flashes: General error, please try again. Contact the supplier for support.