



## Installation Guide

Thank you for purchasing the Apollo Smart Heating Oil Energy Monitor which communicates with Apollo Smart Transmitter and has a multi-function LCD reporting the rate of consumption, monetary cost, and carbon footprint, while continuously monitoring the level of the liquid.



### STEP 1: SETUP APOLLO SMART MONITOR

On first powering up your Apollo Smart Monitor, it automatically displays its setup mode. The Apollo Smart Monitor screen will show SETUP 1. One or more segments of the display may be flashing. Flashing segments are circled in RED in the diagrams. Please follow the following steps to store the settings to configure your Apollo Smart Monitor. If you make a mistake and store an incorrect value, simply press ENTER repeatedly until you return to the same SETUP number, then select the correct value and press ENTER to store.

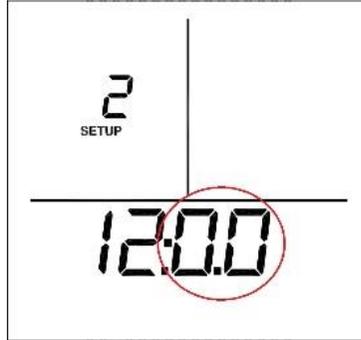
#### SETUP 1 – Setting the time (hrs)

Adjust the hour displayed using  $\Delta/\nabla$ . Press ENTER to save.



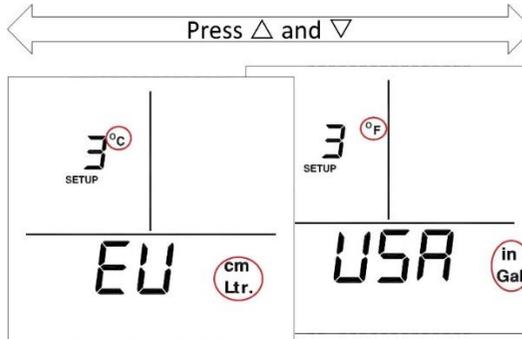
#### SETUP 2 – Setting the time (mins)

Adjust minutes displayed using  $\Delta/\nabla$ . Press ENTER to save.



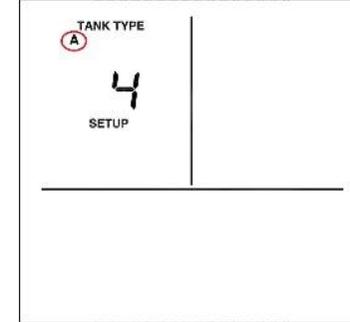
#### SETUP 3 – Setting up the units

Select the system of measurement of your preference using  $\Delta/\nabla$ . Press ENTER to save.



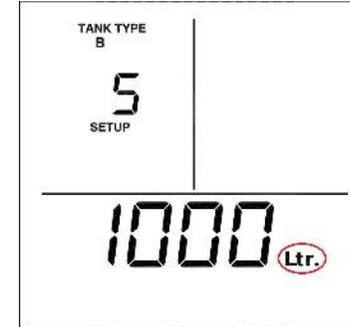
#### SETUP 4 – Setting the tank type

Select Tank Type i.e. A, B, or C, using  $\Delta/\nabla$ . Press ENTER to save.



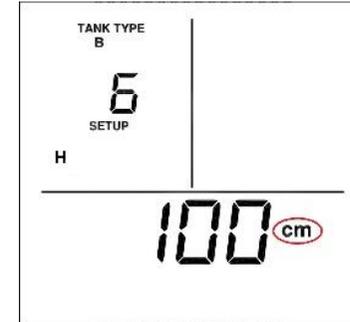
#### SETUP 5 – Setting the tank capacity (Ltr)

Refer to Appendix for nominal capacity and adjust the amount in Litres displayed using  $\Delta/\nabla$ . Press ENTER to save.



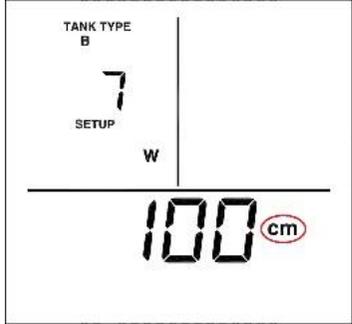
#### SETUP 6 – Setting the tank height (cm)

Refer to Appendix for tank height and adjust the amount in cm displayed using  $\Delta/\nabla$ . Press ENTER to save. Note that if Tank Type 'A' was selected, SETUP 6 will be skipped.



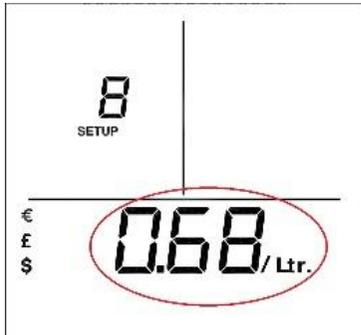
**SETUP 7 (Type B & C tanks only) – Setting the tank width (cm)**

Refer to the tank chart above for the width and adjust the amount in cm displayed using  $\Delta/\nabla$ . Press **ENTER** to save.



**SETUP 8 – Setting the fuel cost per litre.**

Adjust the amount displayed using  $\Delta/\nabla$ . Press **ENTER** to save. (You may need to consult your last oil bill or your oil supplier)



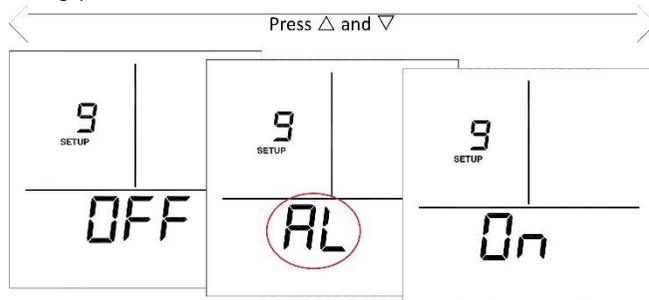
**SETUP 9 – Setting the Low Level Audible Alarm**

**Alarm on:** The Apollo Smart Monitor will sound audible notifications (i.e. beep when the fuel level falls to below 5% of usable fuel remaining, siren if the fuel drops at fast rate, etc.).

**Alarm off:** Disengages the alarm.

For further information please refer to User Manual.

Select **AL ON/OFF** using  $\Delta/\nabla$ . When the display shows your preferred setting, press **ENTER** to save.



SETUP should now be complete. Press **SETUP** to exit.

On exiting SETUP mode, the Apollo Smart Monitor temporarily displays 'CALC'.



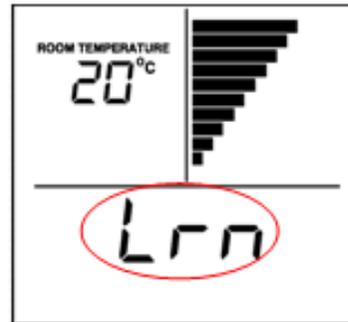
**N.B. If at any stage you exit SETUP mode for any reason, simply hold SETUP for 3 seconds to begin again.**

**STEP 2: MATCHING ECO OIL MONITOR AND SENSOR**

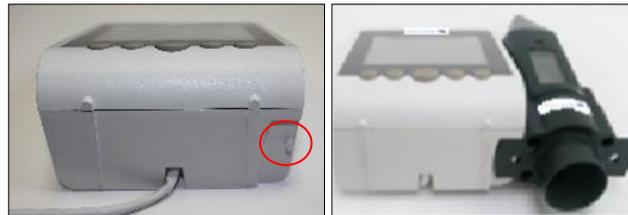
The Apollo Smart Monitor must be in **LEARN** mode which can be entered in one of two ways:

- A) Pressing **SETUP** after completing STEP 1 above
- B) Disconnecting and reconnecting the power

When in **LEARN** mode the display shows 'Lrn' in the main display area. **LEARN** mode will last for **2 minutes** during which time you must 'match/pair' the sensor to the Apollo Smart Monitor.



**To match/pair the units:** Note the location of the alignment pin on the right-hand side of the base of the Monitor. Using the screw hole of the sensor, slot it onto the pin.



The logo label on the sensor should be facing in the same direction as the Monitor's display. When located properly, the bars in the bar graph display of the Apollo Smart Monitor (and on the display of the sensor if a visual sensor is being used) will flash and begin to increase in synch together rising from one bar to ten bars. A continuous audible beep and flashing LED on the monitor will also indicate the matching is in progress.

Continue to hold the units in place until **all 10 bars are flashing**. The Apollo Smart Monitor will make a **loud beep** and the **Red LED** on the sensor will flash. They are now matched and should be separated immediately.

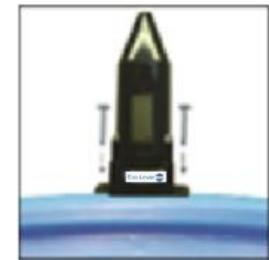
Following the 'matching/pairing' the sensor will send data continuously to the Apollo Smart Monitor for approximately 10 minutes. Each time the Monitor receives a reading, it will make a clicking noise and the LED on the Monitor will blink (this is 'fast' mode for the sensor).

During this time, confirm that the matching procedure was successful by slowly raising and lowering the sensor over a flat surface and observing that the display in the Apollo Smart Monitor changes. 'Fast' mode will stop after 10 minutes. The sensor is now ready to fit onto the tank and should be fitted whilst in 'Fast' mode.

**You should now proceed immediately to fit the sensor to your tank. If it is not fitted within 10 minutes, the Apollo Smart Monitor may display an error or an incorrect reading. It may then take up to 2 hours before the correct tank level information is displayed on the Apollo Smart Monitor screen.**

**STEP 3 - INSTALLING THE APOLLO SENSOR ON THE TANK**

The procedure is the same for fitting to both old and new tanks. For bunded tanks ensure that the sensor is located on top of the inner tank.



**For Tanks with pre-drilled 30/32mm hole**

- Remove cap from hole and insert sensor, ensuring the weather seal is securely in place.
- Ensure the sensor is vertical on top of the tank.
- Tighten on to the tank using the 2-stainless steel 19mm long self-tapping screws supplied. **Do not use longer screws. Do not over-tighten.**

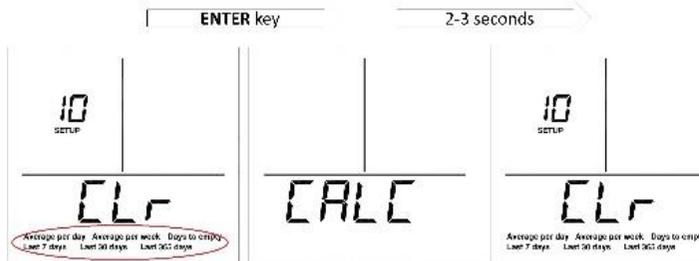
**For Tanks without pre-drilled holes**

- If the tank is not pre-drilled, then using a 30/32mm hole saw, drill the hole in the top of the tank in a suitable area to allow ease of fitting the sensor such that the sensor can see the tank contents. Position it so that there are no internal obstructions that may interfere with the ultrasonic signal (i.e. Ribs, Stays, Side of Tank, internal equipment).
- Use the **Installation Help** diagram below to ensure suitable fitting.
- Ensure the sensor is vertical on top of the tank.
- Tighten on to the tank using the 2-stainless steel 19mm long self-tapping screws supplied. **Do not use longer screws. Do not over-tighten.**

Check the Apollo Smart Monitor display 2 hours after mounting the sensor & verify that your Apollo Smart Monitor display shows the tank level in the bar-graph area & the oil volume information in the main display area. If not, please consult the 'Troubleshooting' section of the Apollo Smart Monitor User Manual.

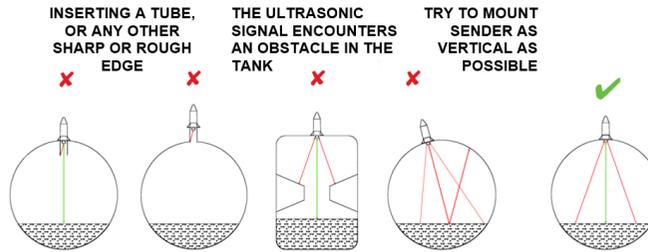
**STEP 4: (OPTIONAL) PERFORM ONLY IF THERE WAS A DELAY IN INSTALLING THE SENSOR ON THE TANK**

You only need to complete this step if there was a gap of more than an hour between completing STEP 2 and STEP 3. When the sensor is installed and has been confirmed as working, **reset the usage calculations** by pressing **SETUP** for 3 seconds to enter SETUP mode and then press **ENTER** repeatedly until SETUP 10 is shown. The segments at the bottom of the display will be flashing. Press the **ENTER** key for 5 seconds. The screen will temporarily show 'CALC' and then returns to showing SETUP 1 - Setting the Time (hrs). Press **SETUP** to leave SETUP mode. Setup of your **Apollo Smart Monitor** is now complete, and it will now begin to monitor and track your oil consumption on a day to day and week to week basis. On the 'Days to Empty' CURRENT information screen, '---' will be displayed for the first week in use.



**APPENDIX:**

Ensure that the sensor is vertical on top of the tank and that it is positioned such that there are no internal obstructions that may interfere with the ultrasonic signal.



Determine the shape of your tank by selecting your tank type that is closest in shape to your tank from the pictures on the following chart. The capacity on the tank should be noted.

- Determine the dimensions of your tank either from manufacturer's data for the tank or by physically measuring the tank.
- You only need to note the dimensions indicated on the following chart.
- For bunded tanks the information required is for the internal tank only, where the sensor will be located.
- To determine the tank height, measure from the top of the tank, i.e. where the sensor will be positioned, to the bottom of the tank (N.B. of the internal tank in a bunded tank)
- Determine the capacity of the tank from the manufacturer's data for the brim-full and/or nominal capacity.

For further details on the Apollo Smart Monitor, please refer to the User Manual.

	Tank Capacity (Ltr./Gal)			Tank Height (cm/inches)			Tank Width (cm/inches)		
	Low Limit	Default	High Limit	Low Limit	Default	High Limit	Low Limit	Default	High Limit
 Type A	100 Ltr.	1000 Ltr.	19,999 Ltr.	50 cm	100 cm	300 cm	N/A	N/A	N/A
	80 Gal	260 Gal	5,200 Gal	20 inches	39 inches	118 inches	50 cm	100 cm	300 cm
				Tank Width Value	100 cm	118 inches	Tank Height Value	100 cm	300 cm
 Type B	100 Ltr.	1000 Ltr.	19,999 Ltr.	50 cm	100 cm	300 cm	50 cm	100 cm	300 cm
	80 Gal	260 Gal	5,200 Gal	20 inches	39 inches	118 inches	20 inches	39 inches	118 inches
				Tank Width Value	100 cm	118 inches	Tank Height Value	100 cm	300 cm
 Type C	100 Ltr.	1000 Ltr.	19,999 Ltr.	50 cm	100 cm	300 cm	50 cm	100 cm	300 cm
	80 Gal	260 Gal	5,200 Gal	20 inches	39 inches	118 inches	20 inches	39 inches	118 inches
				Tank Width Value	100 cm	118 inches	Tank Height Value	100 cm	300 cm

For more information on the Apollo Smart Monitor please visit our website [www.dunravensystems.com](http://www.dunravensystems.com) where a link to our YouTube page can also be found.