

APOLLO ULTRASONIC OIL LEVEL MONITOR

Includes Bund Alarm

THE RIGHT CHOICE



- The Apollo Ultrasonic Oil Level Monitor measures the level of usable oil in your tank in 10 graduations of the tank height.
- We give a full 1 year warranty subject to normal conditions. Supplied with long life lithium battery. The warranty becomes invalid if the sealed unit is opened.
- Suitable for use in tanks for the storage of diesel fuel, kerosene, gas oil types A2, C1, C2, and D as defined by BS 2869. Check with the manufacturer and/or supplier before using with any other fluids.
- The Apollo Ultrasonic will fit easily to most standard oil storage tanks (plastic or steel) that has a 20 mm, 32 mm or 38mm (1½") gauge hole.

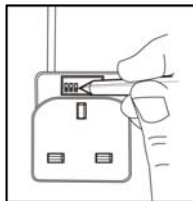
TOOLS REQUIRED

Star/Philips head screwdriver.

INSTALLATION INSTRUCTIONS

1 SETTING RECEIVER

- Accurately measure the height of your tank. Using the tank height chart on **page 2**, read across to the relevant multi switch settings. The multi switches are located in a recess at the back of the receiver above the pins.
- Using screwdriver or tip of ball point pen, flip the relevant switch(es) upwards (= ON). As an example, if the tank is 850 mm high, set switches **ON (Up) Number 4 & 8**.

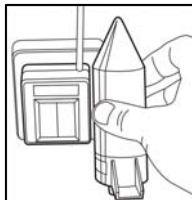
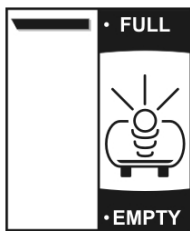


Your **Apollo Ultrasonic** receiver is now programmed to your tank height.

2 MATCHING RECEIVER AND TRANSMITTER

You should match the receiver with the transmitter so that the system code is unique to your tank. You only need to do this once.

- Plug receiver into a suitable and convenient electrical socket and switch on. The display screen on the front of the receiver will show a flashing top bar as shown in diagram. This indicates that the receiver is awaiting a unique code. The flashing top bar will last for 2 minutes **during which time you can match the transmitter to the receiver**.
- Hold the transmitter against the receiver right hand side, as shown, so that the black dots are touching each other (important!) for about 20 seconds to allow unique code to be transferred. Bars will increase up the display screen. When all 10 bars are shown they will flash to indicate that the unique code is transferred.

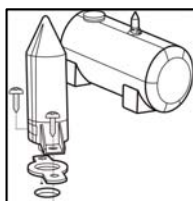


3 FITTING TRANSMITTER

The procedure is the same for fitting to both old and new tanks.

For tanks with pre-drilled 20 mm or 32 mm hole

- Remove cap from hole and insert transmitter, ensuring the weather seal is



securely in place.

- Ensure the transmitter is **vertical** on top of the tank.
- Tighten on to the tank using the 2 stainless steel self-tapping screws supplied. **Do not overtighten.**

For tanks with 1½" (38 mm) BSP gauge socket

- Unscrew cap from hole and fit the adapter provided by screwing into gauge socket.
- Fit the transmitter to the adaptor on the tank as described above.
- Suspend float switch vertically, 100mm above base of tank between inner and outer tank. Tie-off securely any surplus cable.

The Apollo Ultrasonic Oil Level Monitor is now fully installed and signals should be received every hour. After initial installation it may take one hour for the correct oil level indication to be displayed on screen.

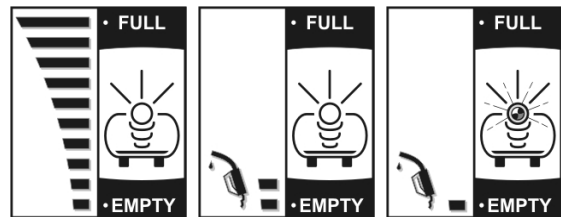
NOTE:

In the event of a power failure or if the receiver is switched off or moved to a new socket:

When power returns again or unit is switched on, the receiver display screen will show the top bar flashing. **There is no need to repeat the matching instruction.** The top bar will continue to flash for 2 minutes, after which time the display screen will be blank, whilst the unique signal is located. This may take up to one hour.

APOLLO ULTRASONIC ON SCREEN DISPLAYS

NORMAL MESSAGES



Full

Early Warning

Almost empty

OTHER MESSAGES

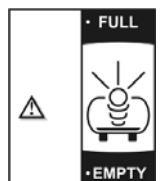
Blank screen after installation or following a power failure
Receiver waiting for signal

- Do Nothing! Signal should be received within one hour.

Flashing triangle, no bars

No radio signal (after waiting for 2 hours)

- check for correct matching procedure
- location of receiver to transmitter (try repositioning receiver)
- moisture ingress due to seal damage
- exhausted battery



No Signal

Flashing triangle, middle bar only

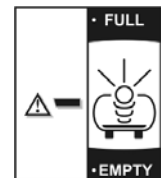
No ultrasonic echo

(Could be condensation on sensing cone)

- do nothing and allow to dry naturally

If message persists

- check the transmitter sensor cone is clean
- check that the transmitter is vertical
- check that the transmitter seal is undamaged



No Echo

All bars and LED (double) Flashing

Bund Alarm

(Could be a leak in the inner skin of the tank)

- Determine if fuel is escaping from the inner skin of the tank, if it is, then replace the tank.
- If there is no leak, check that the float switch is suspended a minimum of 100mm above the base of the bund.



Bund Alarm

APOLLO ULTRASONIC RECEIVER MULTI SWITCH SETTING CHART

Measure the vertical height of the tank from the transmitter position on top of the tank to the bottom of the tank. Read to the nearest measurement on the chart.

Height of tank in mm.	Set Switches On	Height of tank in mm.	Set Switches On
500	All Off	1750	3,4,5,6,7
550	7	1800	2,8
600	6,8	1850	2,7,8
650	6,7,8	1900	2,6,7
700	5,7	1950	2,5
750	5,6	2000	2,5,7,8
800	5,6,7,8	2050	2,5,6,8
850	4,8	2100	2,4
900	4,6	2150	2,4,7
950	4,6,7	2200	2,4,6,8
1000	4,5,8	2250	2,4,6,7,8
1050	4,5,7,8	2300	2,4,5,7
1100	4,5,6,7	2350	2,4,5,6
1150	3	2400	2,4,5,6,7,8
1200	3,7,8	2450	2,3,8
1250	3,6,8	2500	2,3,6
1300	3,5	2550	2,3,6,7
1350	3,5,7	2600	2,3,5,8
1400	3,5,6,8	2650	2,3,5,7,8
1450	3,5,6,7,8	2700	2,3,5,6,7
1500	3,4,7	2750	2,3,4
1550	3,4,6	2800	2,3,4,7,8
1600	3,4,6,7,8	2850	2,3,4,6,8
1650	3,4,5,8	2900	2,3,4,5
1700	3,4,5,6	3000	2,3,4,5,6,8

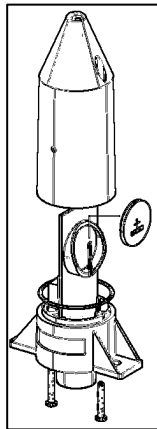
Battery removal

Remove the transmitter unit from the tank and take it to a safe location. The battery can be accessed by removing 2 self-tapping screws from the base of the unit. See sketch.

Remove the old battery noting the orientation ('+' mark facing outwards), and replace with a new battery. 3V-CR2430.

Re-assemble, ensuring the O-Ring is undamaged and secured in position. Re-locate the transmitter on the tank.

No Need to Rematch



Specifications

Tank Depth measurement :

Minimum depth : 0,1 m, Maximum depth : 3 m

Max communication distance:

200m in normal 'line of sight' conditions

Power Supply :

Receiver: 150-250V, 50-60Hz, Meets EN60335

Transmitter: 3-volt lithium cell

Battery life :

10 years (estimated life)

Wireless communications :

433 mHz.FM transmission, EN 300-220

Max and Min Operation Temp (Transmitter) :

Operating temperature range -10° - +60°C.

Not Suitable for pressurised containers. Use on tanks vented to Atmosphere.

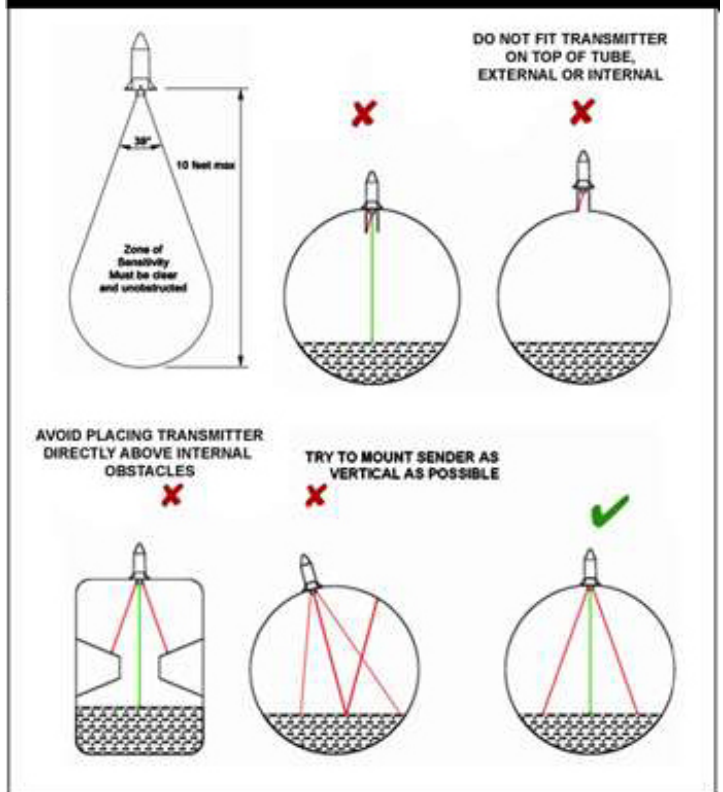
For support contact:

info@dunravensystems.com

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Installation Help

(Not to Scale)



If happy with the Apollo, recommend it to a friend.