

# XT INSTRUCTION MANUAL



## General Information

The Apollo XT Remote fuel oil tank contents gauge is designed for use with oil tanks installed underground or positioned above safe working height where a split in the cable is required in order to mount the on-tank measurement sensor. Such tanks are notoriously difficult to refuel safely. Apollo XT assists in achieving compliance with Health & Safety requirements by allowing the level of fuel remaining inside such tanks to be quickly, safely and accurately determined.



Please note that Apollo XT Remote is a specialist product designed for use primarily with non-standard fuel storage installations. Unlike most other Apollo branded products, it is recommended that the Apollo XT Remote is installed either at time of installation, or retrofitted only by an OFTEC Registered Technician or similarly competent person.

Apollo XT is a multi-part system, comprising of 1a) remote transmitter unit connected via a RG59 cable to a 1b) on-tank mounted ultrasonic measurement sensor; and 2) wireless plug in receiver unit.

- 1a) Transmitter: The transmitter unit features an inbuilt LCD display, showing the level of fuel inside the tank before, during and after refuelling. The transmitter unit wirelessly relays tank level data to the receiver unit, which simply plugs into a standard 13 amp domestic socket.
- 1b) On Tank: The on-tank measurement sensor monitors the level of fuel inside the tank and relays this information via a hardwired connection, to the transmitter unit which is positioned adjacent to the fill point.
- 2) The receiver: The receiver unit incorporates a premium quality LCD display, which allows users to easily ascertain level of fuel remaining inside the tank.



## Features and Benefits:

- Compatible with the standard 32mm port fitted to modern plastic oil storage tanks.
- Optional multi adaptor ensures compatibility with most steel tanks.
- Wireless, tank top, FM transmitter unit
- Plug in receiver unit with integral antenna
- Transmitter incorporates a lithium battery with a life expectancy of up to 7 years
- Premium quality LCD receiver display, readable from a wide range of angles under varying light conditions
- Compatible with the Apollo MaxFill handheld tank monitoring unit
- Suitable for use with almost any tank up to 3 metres tall
  - Ideal for tank underground tanks (UST) and tanks positioned above safe working heights
  - Facilitates, cleaner, safer refuelling and reduces the risk of spillages during delivery
  - Cost-effective, affordable and convenient alternative to bespoke, custom made, alternatives
  - Receiver unit incorporates a low level warning alert with audible alarm, reducing the risk of running out of oil
  - Contactless measurement technology and the absence of a direct connection to the oil supply line eliminate the risk of spills and leaks.
  - Assists in ensuring compliance with secondary containment requirements.
  - No mains wiring or connection required.

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Ideal for monitoring heating oil and diesel – but suitable too for a wide range of liquids including admixtures, agricultural fuel oil, anti-freeze, biodiesel, bio heating oil, fuel oil, detergents, lubricants, waste oil and water – at storage tank installations where the tank is positioned above safe working heights or installed underground.

## REQUIREMENT TOOLS

- Star/Philips head screwdriver.

## INSTALLATION INSTRUCTIONS

### STEP 1: MATCHING THE RECEIVER AND TRANSMITTER

-Complete first stage matching for tanks of 1 metre

-Complete first and second stage matching for tanks of 800mm and greater than 1 metre. Please see the chart on the next page and note the bar display relevant to your tank height **now**. **For tank heights with no visual setting listed please refer to closest lower value. i.e. tank height of 900mm refer to 800mm visual setting of nozzle symbol only.**

### First Stage Matching

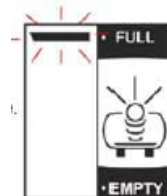
Measure the tank height and from the height chart, set the relevant switches on the receiver. Using a screwdriver or tip of ball point pen, flip the relevant switches upwards (=ON).

e.g. Tank height 1100mm set switches 1, 4, 5, 6 & 7. (Nozzle and 2 bars)

**NB: Please refer to the chart on following page before setting switches.**



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. 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 Visual transmitter against/touching the receiver on the right hand side, so that the black dots are aligned with the display screens facing you, as shown. Hold together for about 20 seconds to allow the unique code to be transferred. The bars will increase up the display screens. **ONLY** when all 10 bars are shown, will they flash to indicate that, the unique code is transferred. **For tanks of 1 metre the matching is now complete.** Separate the Apollo Visual from the receiver and watch for double flash of red light on the Visual transmitter. You may now fit the On-tank sensor to the tank



### Second Stage Matching

- **Continue to hold the Visual transmitter to the receiver**, the screen will go blank.
- Continuing to hold the transmitter to the receiver, after about 20 seconds, the nozzle icon appears, indication that it is in "tank height setting" mode.
- The transmitter bar display will increase bar by bar.

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- Based on the tank height selected, (see bar display on next page), wait until the selected number of bars appear on the Visual transmitter display screen, then separate Visual transmitter from the receiver. The selected number of bars will show. Watch for a double flash of the red light on the Visual transmitter showing that the new reading has been stored in permanent memory.
- The setup is now complete. Proceed to Fitting Transmitter Instructions

## APOLLO ULTRASONIC RECEIVER MULTI SWITCH SETTING CHART

TANK HEIGHT CHART - 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	
	Pin Setting	Visual Setting		Pin Setting	Visual Setting
500	1		1750	1,3,4,5,6,7	
550	1,7		1800	1,2,8	
600	1,6,8		1850	1,2,7,8	
650	1,6,7,8		1900	1,2,6,7	
700	1,5,7		1950	1,2,5	
750	1,5,6		2000	1,2,5,7,8	↗ + 7 BARS
800	1,5,6,7,8	↗ + 0 BARS	2050	1,2,5,6,8	
850	1,4,8		2100	1,2,4	
900	1,4,6		2150	1,2,4,7	
950	1,4,6,7		2200	1,2,4,6,8	
1000	1,4,5,8	↗ + 1 BARS	2250	1,2,4,6,7,8	
1050	1,4,5,7,8		2300	1,2,4,5,7	↗ + 8 BARS
1100	1,4,5,6,7	↗ + 2 BARS	2350	1,2,4,5,6	
1150	1,3		2400	1,2,4,5,6,7,8	
1200	1,3,7,8	↗ + 3 BARS	2450	1,2,3,8	
1250	1,3,6,8		2500	1,2,3,6	
1300	1,3,5	↗ + 4 BARS	2550	1,2,3,6,7	
1350	1,3,5,7		2600	1,2,3,5,8	↗ + 9 BARS
1400	1,3,5,6,8	↗ + 5 BARS	2650	1,2,3,5,7,8	
1450	1,3,5,6,7,8		2700	1,2,3,5,6,7	
1500	1,3,4,7		2750	1,2,3,4	
1550	1,3,4,6		2800	1,2,3,4,7,8	↗ + 10 BARS
1600	1,3,4,6,7,8		2850	1,2,3,4,6,8	
1650	1,3,4,5,8		2900	1,2,3,4,5	
1700	1,3,4,5,6	↗ + 6 BAR	3000	1,2,3,4,5,6,8	

### Second Stage Mis-Match

If in the event during second stage matching one over runs the desired height settings ( number of bars), continue to hold receiver and transmitter in matching position until all ten bars are flashing as the Visual reverts to blank screen. Hold until flashing nozzle and desired number of bars are shown. Separate the Visual from the receiver. Watch for a double flash of the red light on Visual transmitter showing that the new reading has been stored in permanent memory.

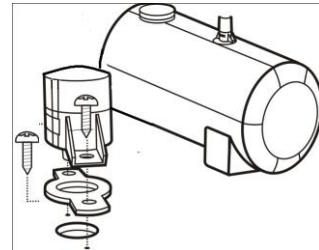
### Incorrect setup

In the event that the incorrect number of bars was reached and the units were separated, reset the unit by unplugging the receiver plug and completing the process from the beginning.

## STEP 2: FITTING THE ON TANK SENSOR

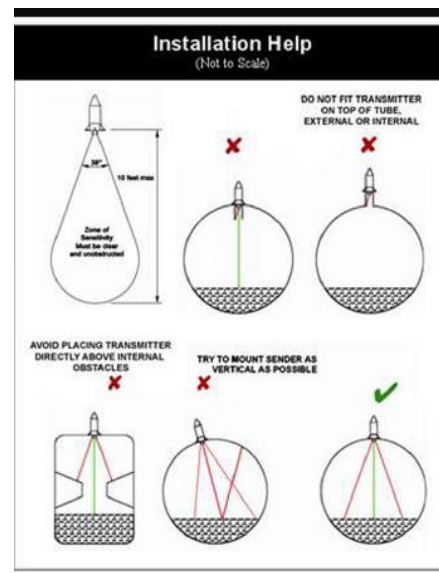
**For tanks with pre-drilled 20 mm or 32 mm hole**

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



**For tanks with 1½" (38 mm) BSP gauge socket an optional adaptor is available**

- Unscrew cap from hole and fit the adaptor provided by screwing into gauge socket.
- Fit the on tank sensor to the adaptor on the tank as described above.



## Fitting the Transmitter.

- Using a stable structure which is a minimum of 2 ft. above ground level secure the Transmitter using the two screw holes provided.
- Ensure any loose cable along the route from the tank to the transmitter is secured using cable ties or other suitable items.

## Note:

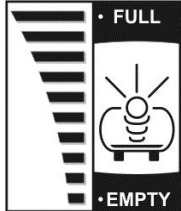
- Please ensure the receiver is plugged into an electrical socket at all times. Do not unplug to reset.
- In the event of a power failure or if the receiver is switched off or moved to a new socket: When power returns again or unit is switched on, the receiver display screen will show the top bar flashing. **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.

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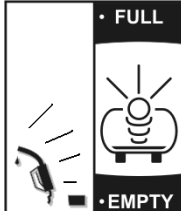


## APOLLO ULTRASONIC ON SCREEN DISPLAYS

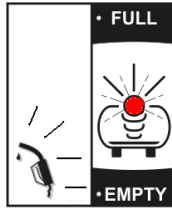
**NORMAL MESSAGES** (images for illustration purposes)



*Full*



*Early Warning*



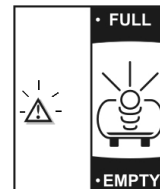
*Almost empty*

### OTHER MESSAGES:

**Blank screen or top bar only 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 received from transmitter (after waiting for 4 hours)*

- **Check for correct matching procedure**
- location of receiver to transmitter (try repositioning receiver)
- Check the transmitter seal is undamaged.

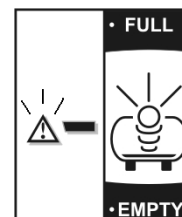
### Fixed Triangle only

- *Low battery warning*, unit will continue to give a reading until the battery is exhausted.
- Replace Lithium CR2430 battery in transmitter
- Please see over for further information on removing battery

### Flashing triangle, middle bar only

*No ultrasonic echo*

- check the transmitter sensor cone is clean
- check that the transmitter is vertical
- check that the transmitter seal is undamaged
- If the message persists, check the transmitter is vertical on the tank.



- **Note: If the oil level is within 8 inches of the transmitter this message along with other messages may occur. Wait until the oil level drops below 8 inches for accurate reading.**

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