

### 1 - Preparations

Check package contents:

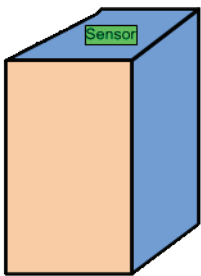
- 1 x Ultrasonic Tank Sensor
- 1 x 10m cable
- 1 x Rubber gasket
- 1 x Metal washer
- 1 x Installation Guide

Tools & materials required:

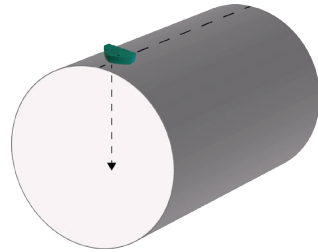
- Tape measure
- Center punch
- Electric drill
- Hole cutter for metal 30mm (1 1/8" - 1 1/4")
- Stripping tool
- Wire cutter
- Half-round/flat file
- 2 x 35mm screws, M5 or equivalent
- Thread tap for above screws

### 2 - Position on Tank

Sensor mounted on top surface of tank.



**Important!** Sensor must be mounted as horizontally as possible.

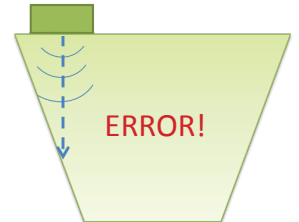
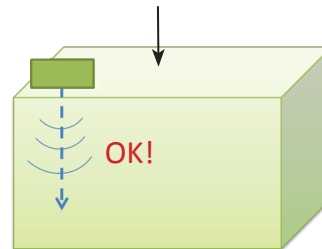


**Important!**

The sensor must be positioned so that it is not exposed to direct sunlight. Use a sunshield if required.



**Important!** Ensure that the sensor has a free line of sight to the bottom of the tank.



### 3 - Mounting



If the mounting surface is completely flat, the sensor can be mounted as is. If the surface is rounded or uneven, this will require the use of the supplied rubber gasket and metal washer, in order to achieve the IP65 protection rating.

**3a**

Using the center punch, mark the position for the center of the sensor hole.



**3b**

Use the drill-mounted hole cutter to cut out the sensor hole on the top of the tank. File the edges to remove any burr.



**3c**

Place the sensor over the hole and mark the positions for the 2 screw holes.

**3d**

Drill the holes for the screws, and thread using a thread tap.



**3e**

If the tank surface is not flat, place the gasket and the metal washer over the drilled holes, as shown to the right. Fasten the sensor in place using 2 screws.

Metal washer and rubber gasket, for use on uneven or rounded surfaces.

Note that the gasket has a smooth rubber layer that must face upwards.



Continued overleaf ... →

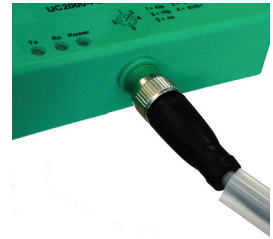
### 4 - Connect Modbus & Power

4a

Using the supplied cable, connect the plug to the tank sensor.

4b

Connect the other end of the cable to the RS-485 terminals on the Netbiter Gateway. See the wiring table below.



Wire color	Signal or function	EC150 Pin	EC220 Pin	EC250 Pin	EC350 Pin
Black	RS-485 Line A	RS-485 A	RS-485 A	RS485 TD(A)	RS485 A
White	RS-485 Line B	RS-485 B	RS-485 B	RS485 TD(B)	RS485 B
Blue	0 V	If using the same power source for the tank sensor and the Netbiter, check that there is enough power.			
Brown	+24V DC				
Grey	Not used				



**Important!** – Tank Sensor power supply = +24 VDC, 0.6W

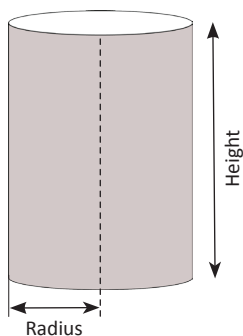
5m extension cables with pre-commissioned plugs are available as optional extras. These should be connected as follows:



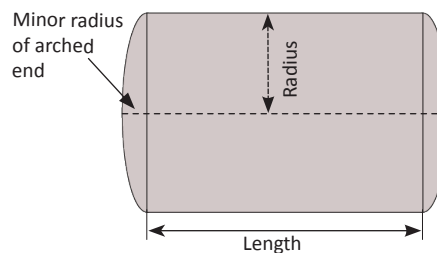
**Product Support:** For support and maintenance, please see: <http://support.netbiter.com/>

### 5 - Register & Measure Tank

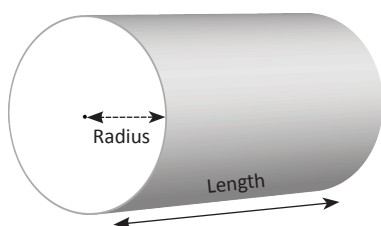
Configuration of the Ultrasonic Tank Sensor requires the type and dimensions of the tank. Four tank types are supported, as shown below. Note the type of tank and enter its dimensions in the spaces provided. These dimensions are then entered at Netbiter Argos, where together with the tank level measurements they will be used to calculate the actual tank contents.



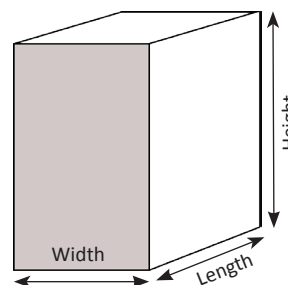
Vertical Cylindrical Tank	
Height	
Radius	



Horizontal Cylindrical tank with arched ends	
Length	
Radius	
Minor radius	



Horizontal Cylindrical Tank	
Radius	
Length	



Rectangular Tank	
Height	
Width	
Length	