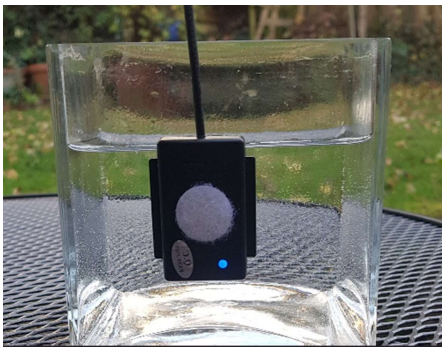
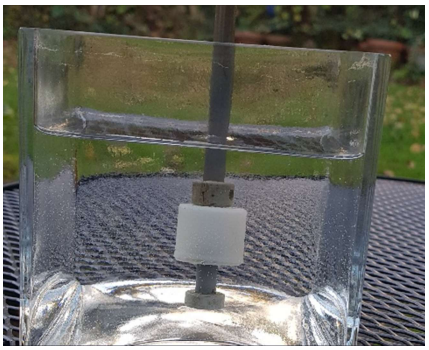
Level series

Sensors that can be attached to Tx and the LevelAlert to determine fluid levels and floods



L1 – Capacitive external



L2 – Rod and float

L3 – Free float

L4 - Conductive

L5 – Elbow float

L6 - Flood

There are many reasons for needing to know the level of a liquid. One of the principle reasons is that where liquids are being used slowly from a container, it may not be obvious that the product is running low.

The slow but gradual use of products out of opaque containers is a particular problem. If the product is depleted, personnel will not know. This can lead to production issues that can go unnoticed.

L1 – Capacitive (External)

This sensor can be placed on the outside of a plastic or glass container, so there is no contact between the sensor and the process liquid. By using capacitance, a clear distinction can be made between whether there is liquid or air on the other side of the container wall. Note – this sensor will not function with metal containers.

With a liquid above the sensing point, the blue LED shows.

When the liquid level drops below the sensing point, the LED goes off and the change in state is picked up by Tx.

L1 installed on an IBC to notify product running low. Strap Type 5 used.

The great benefit of this sensor is that it does not come into contact with the process liquid. This is particularly important when the process liquid is aggressive, corrosive or hazardous.

This sensor can be connected to Tx via the S1 and S2 connections (Channels 4 and 5).

Fixing Straps for L1

Strap Type:	Used for:
1	1 litre bottles
2	5 litre bottles
3	20 / 25 litre drums
4	200 litre drums
5	IBC

L2 – Rod and Float

This sensor can be used in drums and IBCs, but it is particularly suited to open tanks where it can be wall mounted.

The float at the end of the rod will drop as the surface level of the liquid drops. This breaks a magnetic contact that is sensed by Tx. This sensor is available in various lengths and with extensions. By choosing the correct lengths for the sensor, the critical liquid level can be detected.

This sensor can be connected to Tx via the S1 and S2 connections (Channels 4 and 5).

L3 – Free Float

Because of its relatively large size (80mm diameter), this sensor type is only suitable for liquid containers with a large top opening.

The method of operation of the sensor is based on a rolling ball inside the sealed casing operating a micro-switch. The Tx system detects the status of the micro-switch and alerts accordingly.

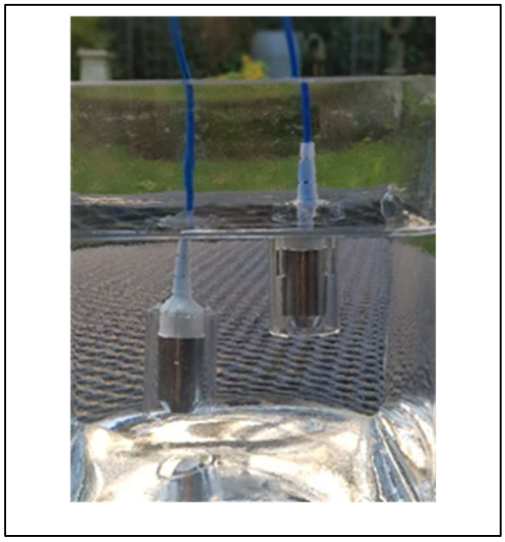
This sensor can be connected to Tx via the S1 and S2 connections (Channels 4 and 5).

The black weight (shown in the picture) is positioned on the black suspension cable so that the float operates at the desired depth. The flout switch operates when its floating angle is lower than 45degress below the horizontal.

This sensor can be connected to Tx via the S1 and S2 connections (Channels 4 and 5).

L4 – Conductive

This system depends on there being a liquid medium between two submerged conductive weights.



As in the picture, when there is a conductive liquid present between the two stainless steel weights, Tx recognises that the liquid is present. When the liquid level drops below the level of the upper weight, the contact between the two weights is lost and this loss is detected by Tx and an Alert can be issued.

This system will work with many liquids, although it will not function with purified water.

A special relay assembly is required within the Tx box for detecting the very small electrical signals involved. This is included in pricing.

L5 – Elbow Float

This type of level sensor works best where it can be mounted through the wall of a container.

The elbow float is recommended for permanent installations to detect either a low level or an overflow situation. Note - Tx can be set to detect either “contact made” or “contact broken”.

This sensor can be connected to Tx via the S1 and S2 connections (Channels 4 and 5).

L6 – Flood Sensor

The flood sensor is designed to be placed on the floor where there is the possibility of liquid spills or a water flood. There are two stainless steel electrodes on the base of the sensor. When these electrodes are connected together with a liquid medium, the connection is detected by TX.

A special relay assembly is required within the Tx box for detecting the very small electrical signals involved. This is included in pricing.

Several flood sensors can be wired into a single Tx box so that a wide area can be monitored economically.

Tx – The Comms System

All these level sensing types can be connected to the Tx comms system direct from LevelAlert.

Tx is a GSM system developed by Dosing Solutions Ltd primarily to monitor water consumption in livestock. However, in addition to the two flow channels that can be connected to Select dosers or

directly to water flow sensors, Tx has two switch channels (Channels 4 and 5). These are the channels that level sensors can be connected to.

All communications with the Tx box are via SMS messages. This system has been found to be preferable as the basic GSM signal covers large areas in each country. Full details on the Tx system with Instructions for Use etc are on www.dosingsolutions.com.

This is not a complete list of all available level sensing devices. Other sensing devices may well be able to be attached to Tx. Please contact Dosing Solutions Ltd for more information and to discuss your particular application.

LevelAlert – Local Warning System

The LevelAlert is designed to provide visual (and optional audible) warning locally to indicate that a product (or water) level is low. This unit is for indoor use only.

The standard set-up is for the LevelAlert to alarm at low level. Alarming at high level (tank -full) is also possible on request.

The Level Alert is a 12V unit that is run from the power supply which is provided with each unit. It is also possible to run this unit from a 12V car battery. In this case Dosing Solutions can supply battery connection leads.

A connection terminal is provided inside each LevelAlert for the attachment of a cable to an all-weather strobe light / siren combination which can be placed outside a building. A connection terminal is also provided to connect the LevelAlert to Tx with a simple cable joining the two. If Tx is used in conjunction with the LevelAlert, not only is there a local warning with light and/or sound, but also an SMS can be sent from Tx to alert people in more distant locations that there is an issue with product or water levels or a floor flood. The Tx connection is pre-wired with a connector inside each LevelAlert box.

Item Numbers:

Item	Item No.	Description
LevelAlert	400CA00	Alert box with mounted blue strobe light but no sensor
LevelAlert with sensor	400CA**	** see below for construction
Internal siren	410CA00	105 dB two tone siren for use inside
External strobe/siren	420CA00	107 dB red waterproof strobe/siren for external use with 10m connection cable.
Straps sold separately	430CA**	** is 1 to 5 for the strap types
Power supply for LevelAlert (as replacement)	169CA00	1A power supply
Tx	10TX200	The basic comms box

Item No. Construction

For Item Code 400CA13:

400	CA	1	3
LevelAlert box		L1 sensor (capacitive)	Strap Type 3 (for 20 and 25L drums)

e.g.:

400CA15 which is a LevelAlert box with Sensor Type 1 (Capacitive) and Strap Type 5 (for IBC)

400CA20 which is a LevelAlert box with Sensor Type 2 (rod and float). No strap needed.

Etc.