# Liquid Level Indicators - ES0072

# Product Instructions

# General description

A compact, lightweight device with three metallic probes used to give indication of two separate liquid levels within a cup or mug. The two different versions give audible and vibratory indication (a yellow case) or audible only (a blue and white case). This can be used to assist in filling a cup with hot water/tea/coffee until the first level is reached and then topping up with milk until the second liquid level is detected. The unit also has two small magnets embedded in the plastic moulding enabling it to be attached to the side of a fridge, microwave oven etc. for storage when not in use.

# Instructions

## Orientation

Position the LLI with its three probes on the underside and the semi-circular moulding towards you and place it on a table.

## Top

Just below the top straight edge of the case is an embossed RNIB logo. Just below this and immediately on the right and on the left you can feel two small circular indentations about 4mm diameter. These are the two embedded magnets.

Half way down the moulding in a recessed semi-circle is a small 2mm diameter hole. This hole is above the internal speaker and allows the tones to be emitted from the device. The lower edge of the top surface nearest to you is a semi-circular shape with a ribbed edge. This is the battery drawer, which when necessary is opened by pulling the drawer towards you.

## Back

Turn the unit over resting it on its top surface with the probes facing towards you. The three metal probes occupy most of this surface. You will detect that the probes are held apart and also kept parallel by a plastic separator that can be slid up and down. The position of this moulding can be adjusted to achieve the best fit of the LLI on the rim of the cup being used.

To detect the liquid levels the probes must always be on the inside edge of any cup or mug.

## Bottom edge

The ribbed semi-circular bottom edge is part of the battery drawer. Before first use you will be able to feel a small round tag sticking out of this bottom edge. This tag is used to prevent the battery discharging during storage and shipment and should be pulled out and discarded prior to the LLI being used.

## Getting started

Hold the battery tag and pull it away from the moulding to activate the battery. After doing this you will hear three confirmation beeps (and also a vibration with DK127). This tells you that the battery is fine and that the unit is ready to be used. The removed tag can be disposed of.

## Using the Liquid Level Indicator

Hang the unit on the edge of your cup or mug with the three metal probes on the inside. It may be possible to improve the fit on the side of the cup by sliding the plastic separator around the probes up or down slightly. With the unit in position carefully pour your hot or cold liquid into the cup and stop when you hear the first set of intermittent beeps (and vibrations with DK127). At this point you can add milk to the drink if required and stop when the continuous set of beeps is heard.

## Battery replacement

To remove the battery, hold the unit with the probes side upwards and then simply slide open the battery drawer by inserting a finger underneath in the semi-circular recess and pull the drawer open. You will be able to feel the battery in the drawer recess and by turning the unit over the battery will simple drop out.

The replacement CR2032 lithium battery needs to be inserted into the now empty circular battery compartment the correct way up. The battery has one surface that is completely smooth and the other surface where you can feel a slight recess around the rim. The perfectly smooth surface is the +ve terminal and this should be face down in the bottom of the compartment and the side with the slight rim recess uppermost.

Close the drawer after replacing the battery and the confirmation beeps will sound if the battery is correctly inserted. If no beeps sound then repeat the operation but on this occasion turn the battery over in the drawer. If no beeps are heard on this second attempt then either the replacement battery is flat or the indicator itself is faulty.

## Technical specification

Dimensions: 50mm x 30mm x 30mm

Weight: 21 grams (including battery)

Battery: CR2032 Lithium battery - available from RNIB product code CP08

## Hints and Tips

## Battery test

It is strongly recommended that you regularly test the unit with cold water to ensure that there is sufficient battery capacity for the device to operate properly, therefore eliminating any potential issues with boiling water over-flowing due to a malfunction with the LLI.

The battery can be tested by opening and then closing the battery drawer and waiting for the confirmation three beeps to sound (with vibration for the DK127) which tells you that the battery is OK.

## Operational test

After you have tested the battery you may wish to test that the unit will operate correctly to detect the liquids. This can be simply achieved in one of two ways. Moisten one of your fingers and hold it across the top of all three probes. This will produce a continuous tone from the unit. Alternatively place the unit over the lip of a cup with the probes on the inside edge and fill the cup with cold water until the unit beeps. By undertaking this operational test you can be more confident in using it with hot liquids.

## Storage of the unit

The suggested method of storage is to use the two magnets incorporated in to the top of the unit and attach it to the outer frame of a fridge, microwave or other metallic surface. To prevent the battery draining accidentally the unit should not be stored in a cutlery drawer where probe contact with the cutlery will cause the unit to continually beep and consume the battery. Storage within a small plastic bag or box would prevent this happening.

## Cleaning the probes

A damp cloth can be used to clean the probes but note that the units must never be immersed in liquid as they are not sealed and damage to the electronics will result. Do not use any cleaning materials or fluids that contain scouring agents, alcohol, spirits or solvents (turpentine) as these agents can damage the plastic case.