

# **user manual**

## **Low Level Alarm**



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# 1. Introduction

Please look at and read these instructions carefully before starting installation and operation. Keep the Installation and User Manual for future reference.

Remove all packaging and check the Low Level Alarm for damage or missing parts, against the Contents of Packaging, before starting installation.

Any alterations made to the Low Level Alarm and fittings will invalidate the Warranty.

**Note:** The Low Level Alarm will be known as the Alarm throughout this Installation and User Manual.

## 1.01 Overview

Hydro's Low Level Alarm complements the Depletion Wand and EvoClean, allowing up to eight units to be connected to monitor all chemicals in a typical OPL. The system minimises costs associated with rewash by detecting the signal from the depletion wands and immediately alerting users with an audible and visual alarm. The alarm is simple to install, it can be powered directly from the EvoClean dispenser or from mains power as a standalone system.

# 2. Safety



## Safety Precautions



### WARNING!

Please read these warnings carefully and follow all applicable local codes and regulations.

### THANK YOU FOR YOUR INTEREST IN OUR PRODUCTS.

### TO AVOID SERIOUS PERSONAL INJURY AND PROPERTY DAMAGE:

#### WEAR

Protective clothing and eye wear when handling or dispensing chemicals or other materials or when working in the vicinity of all chemicals, filling or emptying equipment.

#### ALWAYS

read and follow all safety instructions in safety data sheets (SDS) for all chemicals.  
observe safety and handling instructions of the chemical manufacturer.  
dilute and dispense chemicals in accordance with manufacturer's instructions.  
direct discharge away from you or other persons and into approved containers.  
regularly inspect equipment and keep equipment clean and properly maintained.  
install using a qualified technician only, in accordance with all applicable electrical and plumbing codes.  
disconnect all power to dispenser during installation, service, and/or any time dispenser cabinet is opened.

#### NEVER

mix incompatible chemicals that pose hazards.

- The appliance is not designed to be used at an altitude higher than 2000 m.
- This unit is not to be used with ATEX chemicals
- Means for connection of the appliance from the supply mains must be incorporated within the fixed wiring in accordance with the wiring rules
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard
- This appliance can be used by children (aged from 8 years) and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be carried out by children without supervision.
- **This unit is not be used with chemicals outside the temperature of 5-35°C**

**NOTE:** LLA unit satisfies the Electromagnetic compatibility (EMC) requirement for residential use.

## 2. Safety (continued)

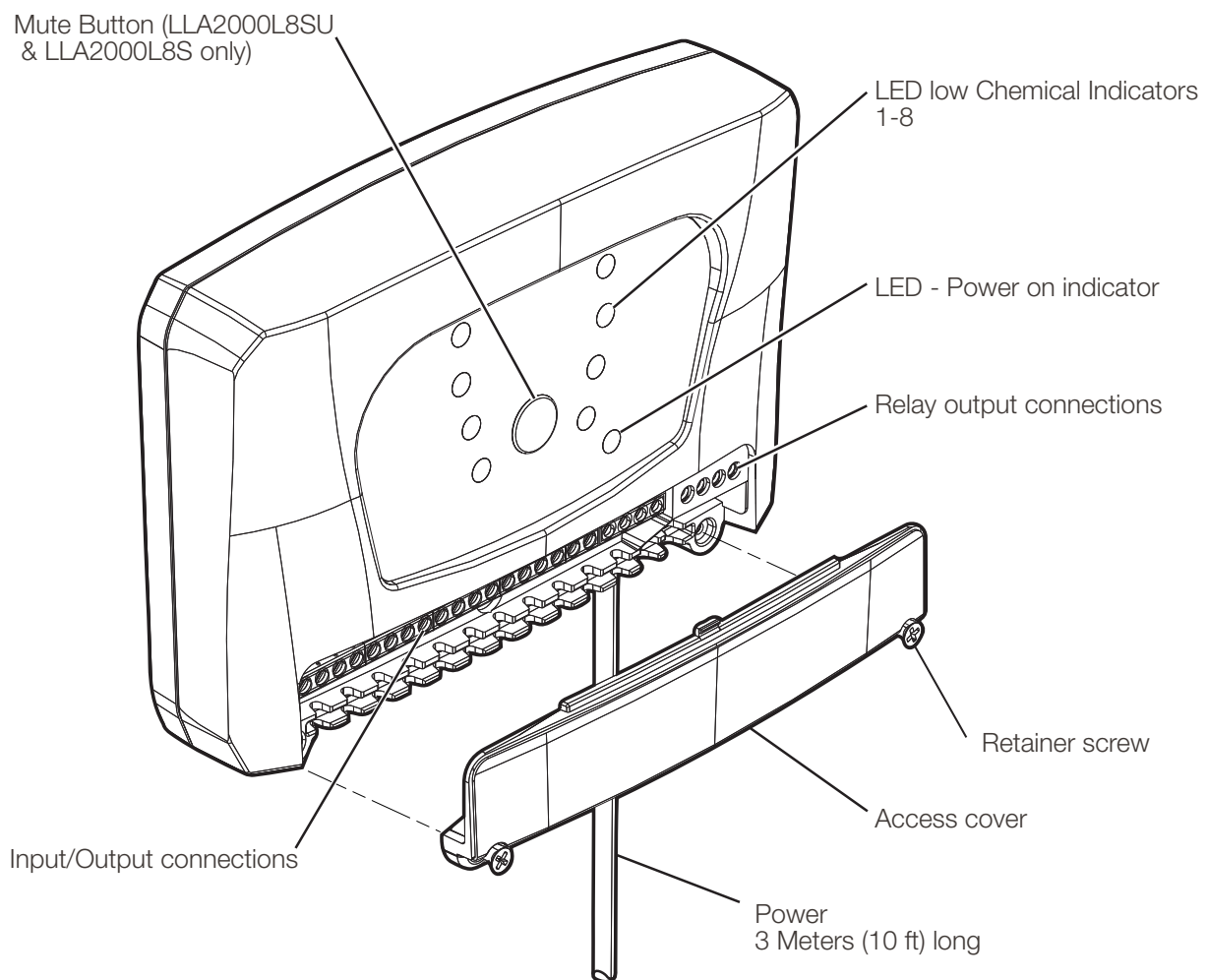


### Electrical

- All electrical work must be carried out in accordance with local and national regulations, and by a qualified electrician.
- The unit **MUST** be disconnected from its power source during cleaning, servicing or when replacing parts.
- The Alarm should only be operated at or within the voltage specified in this Installation and Manual.
- The installer and user are responsible for ensuring the installation and operation of this Alarm are in accordance with this Installation and User Manual and local and national regulations.

**NOTE:** Unit LLA2000L8D must only be supplied by SELV (24 V DC)

## 3. Description



The Alarm is designed to provide early indication of chemical depletion, in up to eight containers.

The key features of the unit are as follows:


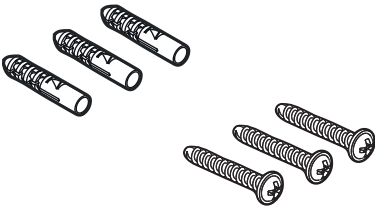
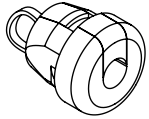
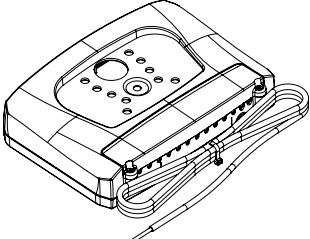
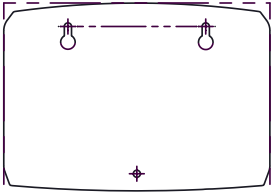
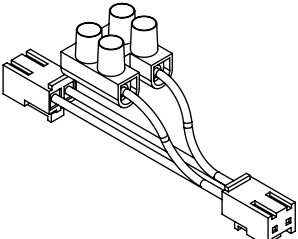
- Low level detection for up to 8 chemical products
- LED and Sounder, indicate chemicals that require attention
- LED auto-extinguishes once chemical replaced
- Buzzer and mute button available on-board or via a linked EvoClean dispenser
- Ability to power an external alarm or strobe, that can be mounted remotely from the unit.

## 3. Description (continued)

Model	Description	Connection to EvoClean (reporting capability)	External alarm connection	Mains powered	Depletion Wand type	
					N/O	N/C
LLA2000L8S	Stand alone version		✓	✓	✓	✓
LLA2000L8D	Dispenser powered version	✓			✓	
LLA2000L8SU	US - 3 pin plug version (with UL approval)		✓	✓	✓	✓

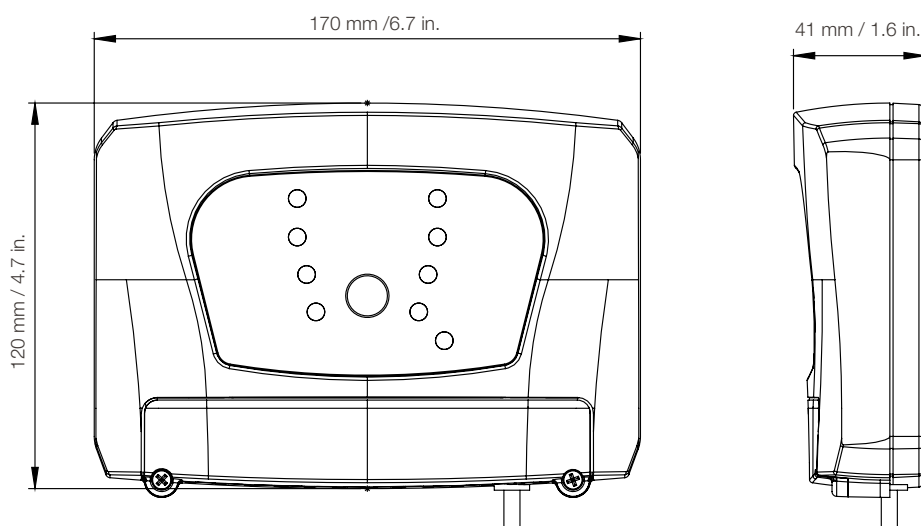
## 4. Contents of packaging

The packaging contains:

Jumper Links (x7) (LLA2000L8S & LLA2000L8SU models only)	Installation Kit (x1) - Screws & Wall Plugs	Wiring grommet/gland (LLA2000L8D models only)
		
Low Level Alarm unit (appearance may vary in accordance to model)	Drilling template (Featured on last page of manual)	Low Level Alarm linking cable for EvoClean (LLA2000L8D models only)
		

**Note:** LLA2000L8SU models are pre-fitted with US 3 pin plug

## 5. Dimensions & Specifications



Model	Power requirement	Current (Amps)	Appliance class	Operating temperature (°C/°F)	Package weight (g/lbs)	
					Gross	Net
LLA2000L8S	110 V/AC - 230 V/AC	0.02	Class II	5-35 / 41-95	385 / 0.85	440 / 0.97
LLA2000L8D	24 V/DC	0.03	Class III	5-35 / 41-95	450 / 0.99	540 / 1.19
LLA2000L8SU	110 V/AC - 230 V/AC	0.03	Class II	5-35 / 41-95	525 / 1.16	615 / 1.36

Package dimensions (L x W x H) (mm) : 205 x 155 x 50

Package dimensions (L x W x H) (in.) : 8.07 x 6.10 x 1.97

## 6. Installation

### 6.01 Site services and installation requirements

Before installation, complete a site survey to ensure that the proposed site meets the requirements listed below:

- Ensure the wall structure is solid enough to secure and hold the Alarm
- There is a 110/230V mains supply available within 3 meters/ 9.84 ft. (LLA2000L8S & LLA2000L8SU ONLY)
- There is sufficient room for operation

The tools that are required to complete the installation are:

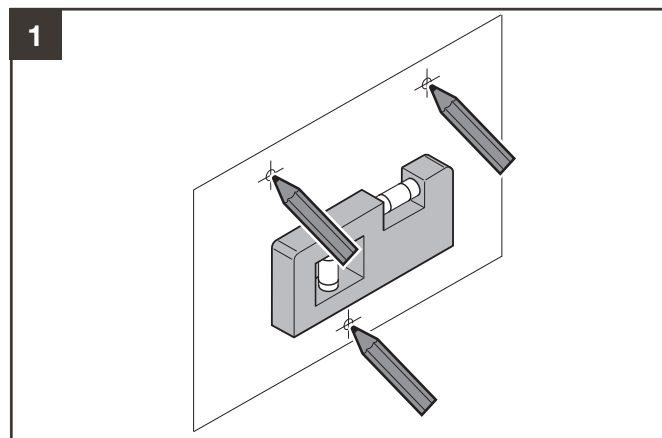
		<b>8mm (5/16")</b> 
<b>10mm (13/32") LLA2000L8D ONLY</b> 	<b>POZI (Phillips)</b> 	

## 6. Installation (continued)

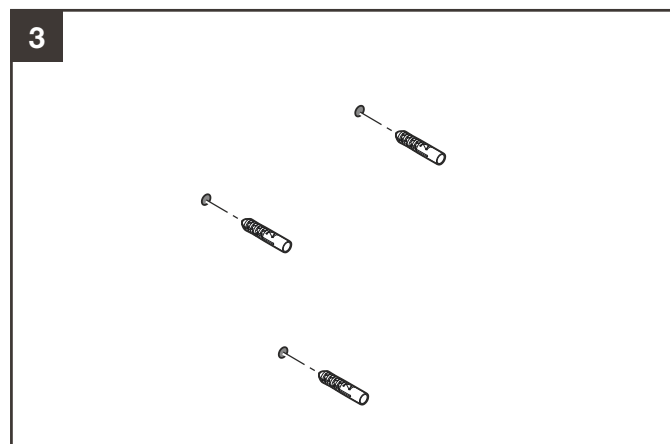
### 6.02 Mounting the Low Level Alarm to the Wall

Using the wall fixing template provided (at the back of the manual) mark the screw positions on the wall. There is a three point connection to the wall, two top screws to hang the Alarm from and one lower screw fixing the Alarm against the wall.

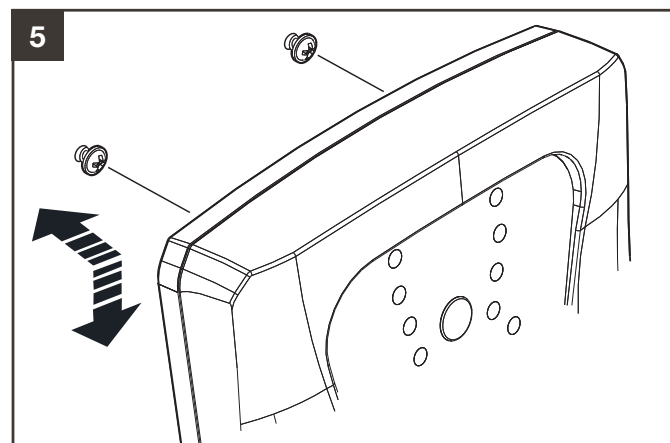
Mark the drilling position, using the template provided



Insert wall plugs

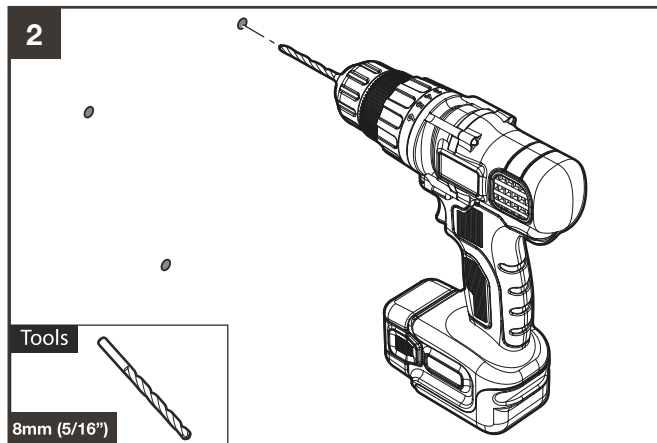


Locate the alarm onto the two hanging screws

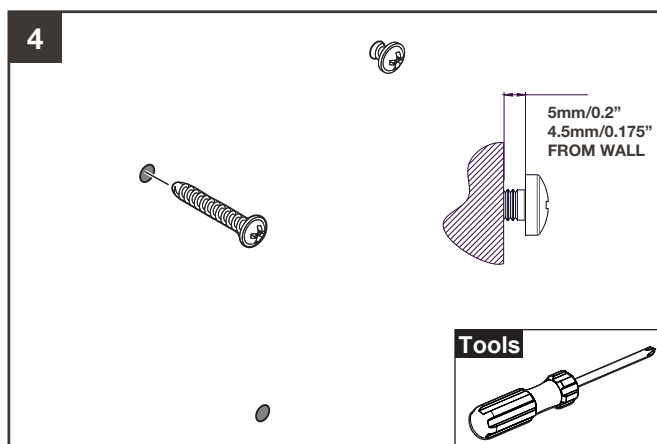


Once the unit has been successfully installed, electrical connections to the depletions wands can be made. Details of electrical connections can be found in [section 6.03](#).

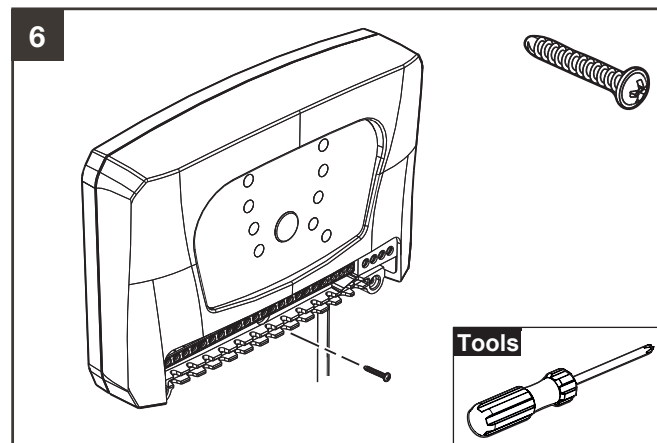
Drill the wall



Install screws



Install fixing screw into lower mounting hole





## 6. Installation (continued)

### 6.03 Electrical connections

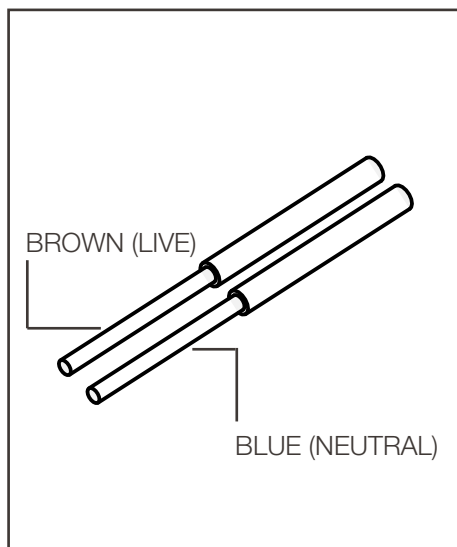


- All mains electrical work must be carried out in accordance with local and national regulations, and by a qualified electrician.
- The unit **MUST** be disconnected from its power source during cleaning, servicing or when replacing parts.
- The Alarm should only be operated at or within the voltage specified in this Installation manual.
- The installer and user are responsible for ensuring the installation and operation of this Alarm are in accordance with this Installation and User Manual and local and national regulations.
- Connect black power cable to power supply, ensuring correct polarity is followed; Brown is live and Blue is neutral.

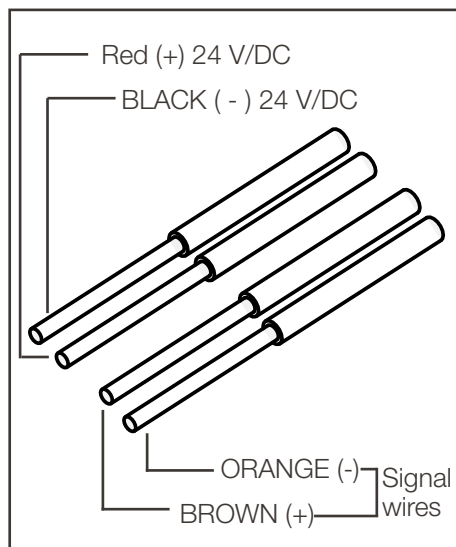
**Note:** It is a legal requirement to allow disconnection of the appliance from the supply after installation. The disconnection may be achieved by having the plug accessible or by incorporating a switch in the fixed wiring in accordance with the wiring rules.

#### Connecting the mains power supply

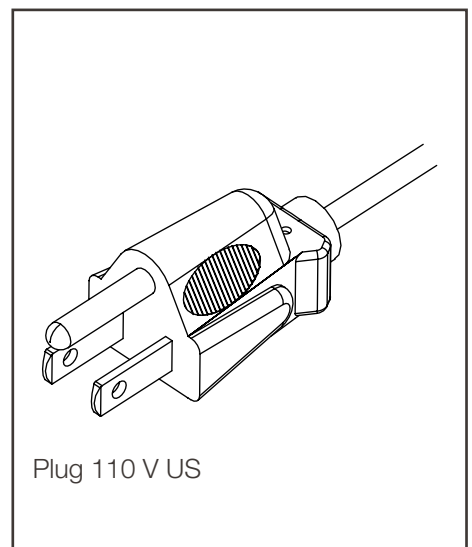
LLA2000L8S (230 V AC)



LLA2000L8D (24 V DC)

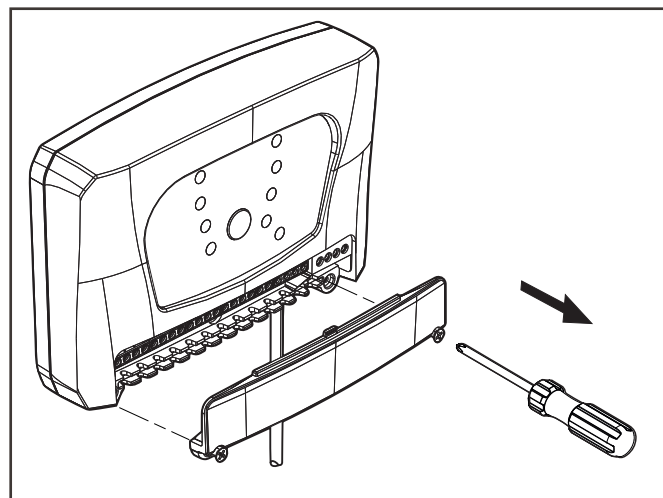


LLA2000L8U (110 V AC)

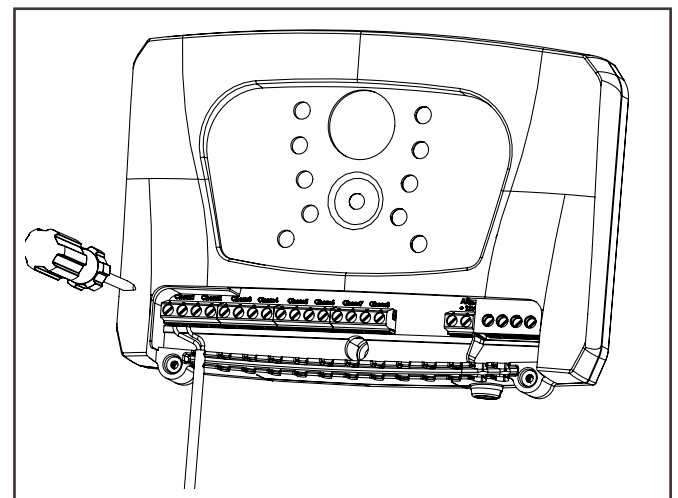


#### Connecting the Depletion Wands

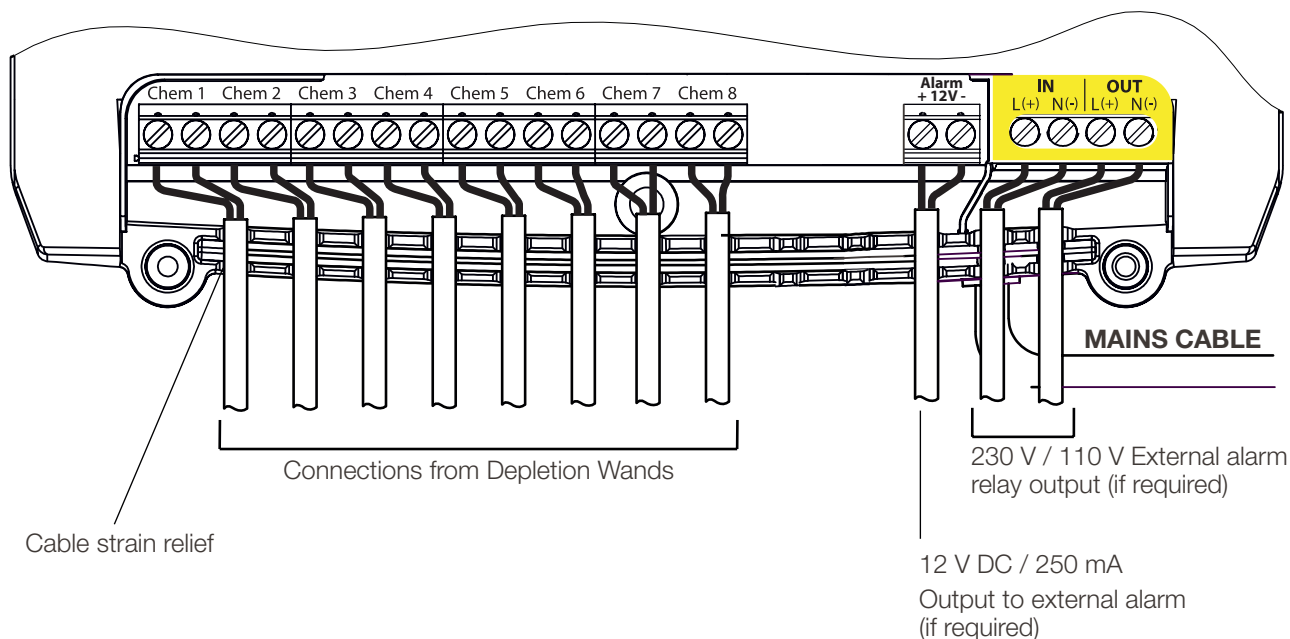
To connect Depletion wands to the unit, remove the access panel, as shown below.



Connect the Depletion wands to the terminals, as shown below.



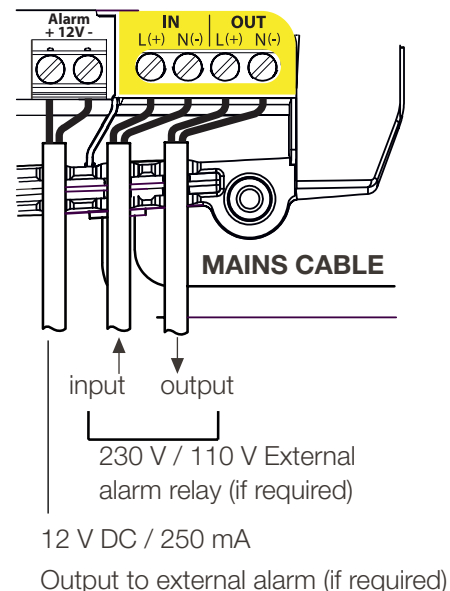
## 6. Installation (continued)



### Connecting external alarms (LLA2000L8S & LLA2000L8SU versions only)

The Alarm allows an additional alarm / sounder to be connected and triggered, using the following power options:

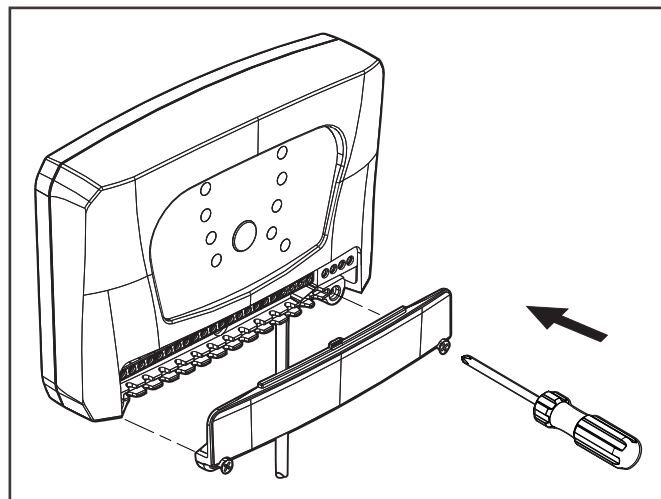
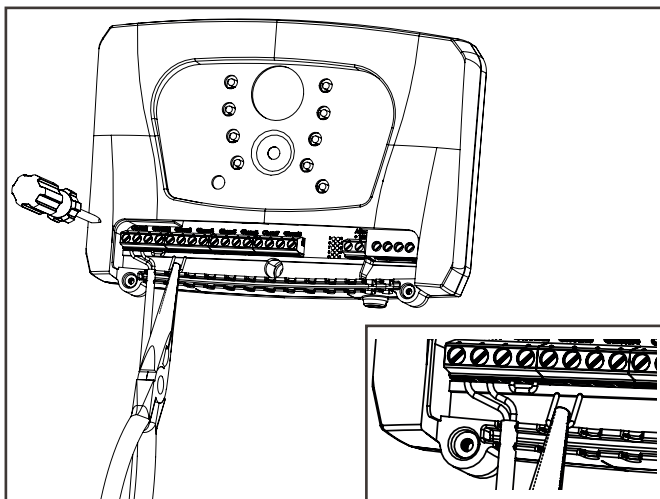
- 12V DC (250 mA max) direct supply from Low Level Alarm unit
- Relay outputs, allowing 110 – 230 V AC (1A max) to be routed through the terminals indicated in the diagram.



On units with normally closed depletion wands, insert the jumper links into all unused terminals, as shown below.

**Warning:** Never insert jumper links into 12 V terminals.

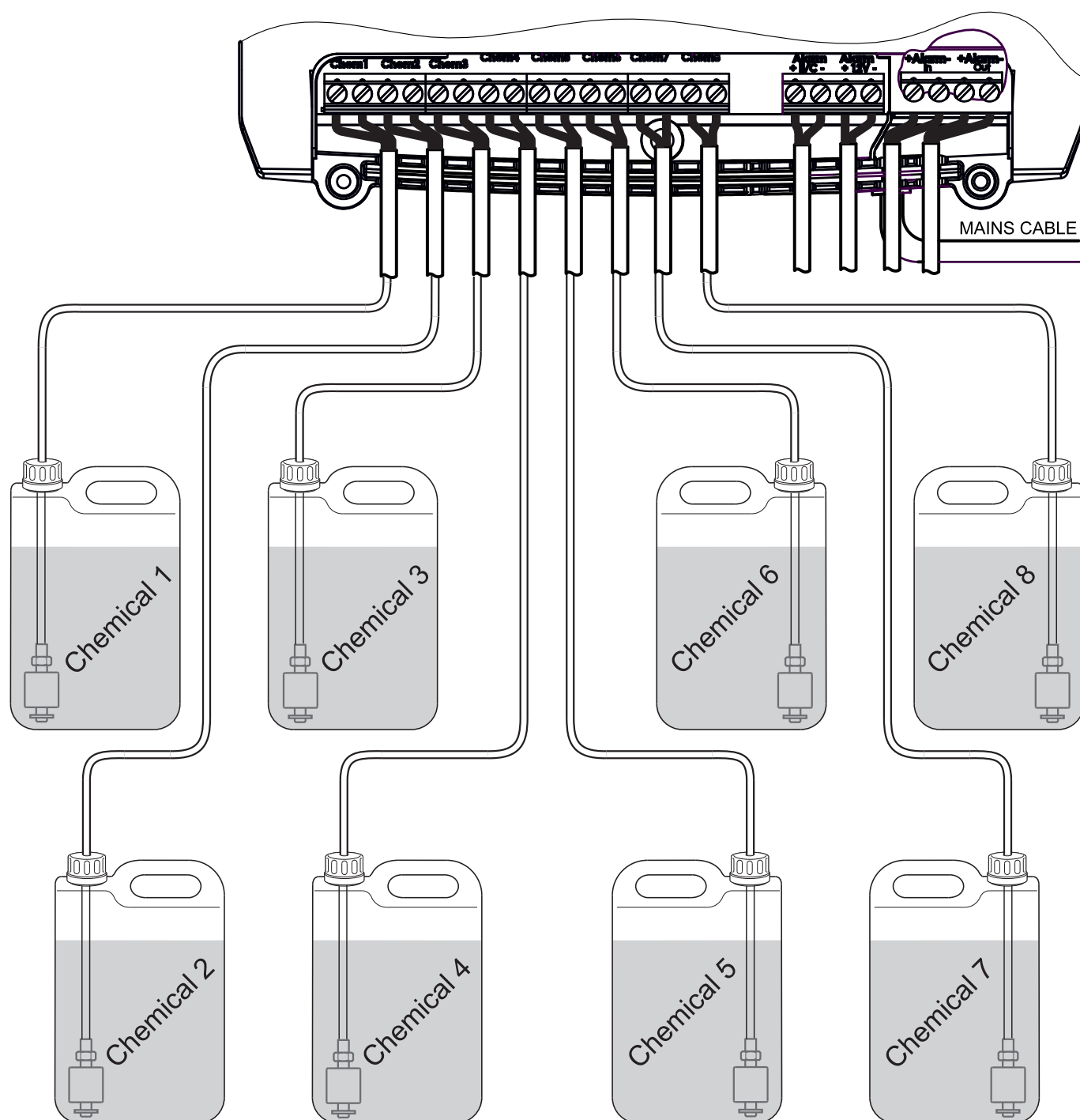
Once electrical connections have been made, the access panel should be replaced, as shown below.



**Warning:** Ensure cables are secured correctly into cable strain relief channels. Incorrect connection may allow cables to be pulled loose.

## 6. Installation (continued)

### Depletion Wand connection overview

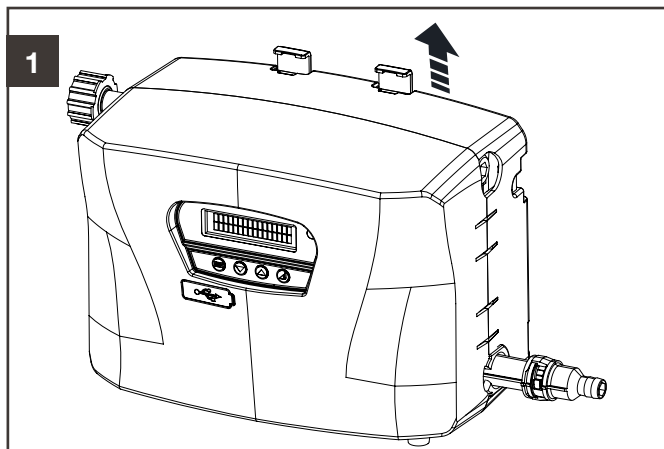


## 6. Installation (continued)

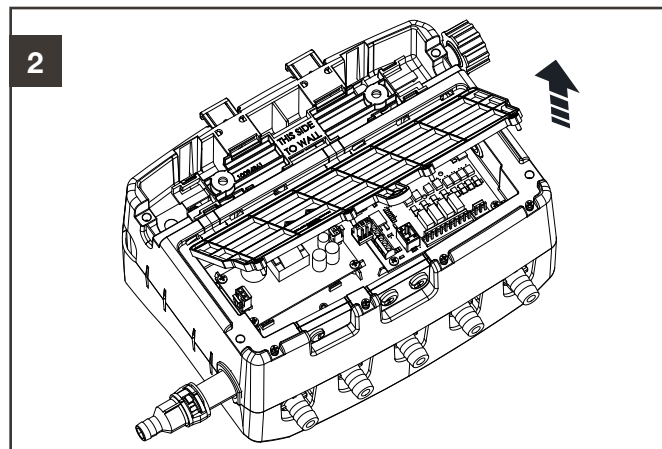
### 6.04 Connecting the dispenser powered Low Level Alarm ( LLA2000L8D )

**Warning:** Isolate EvoClean power & signals before installation.

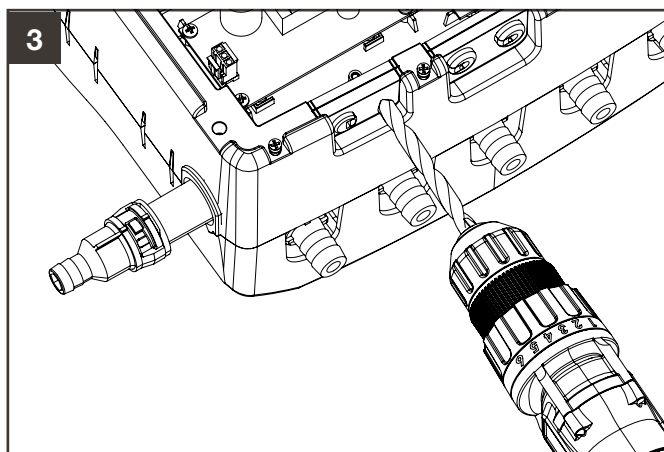
1. Remove clips.



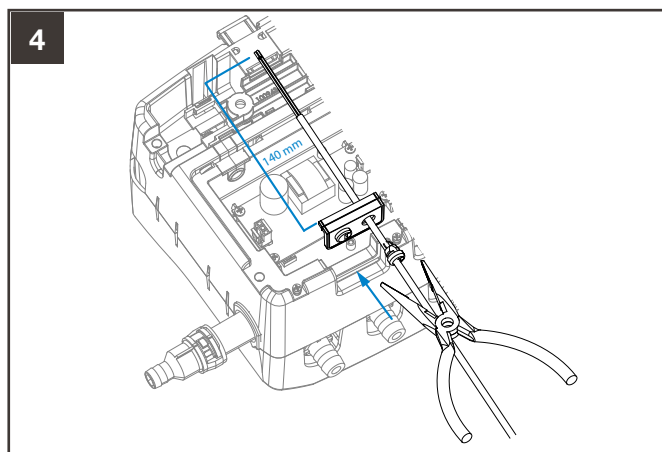
2. Remove cover.



3. Drill hole (10mm / 13/32" drill bit)

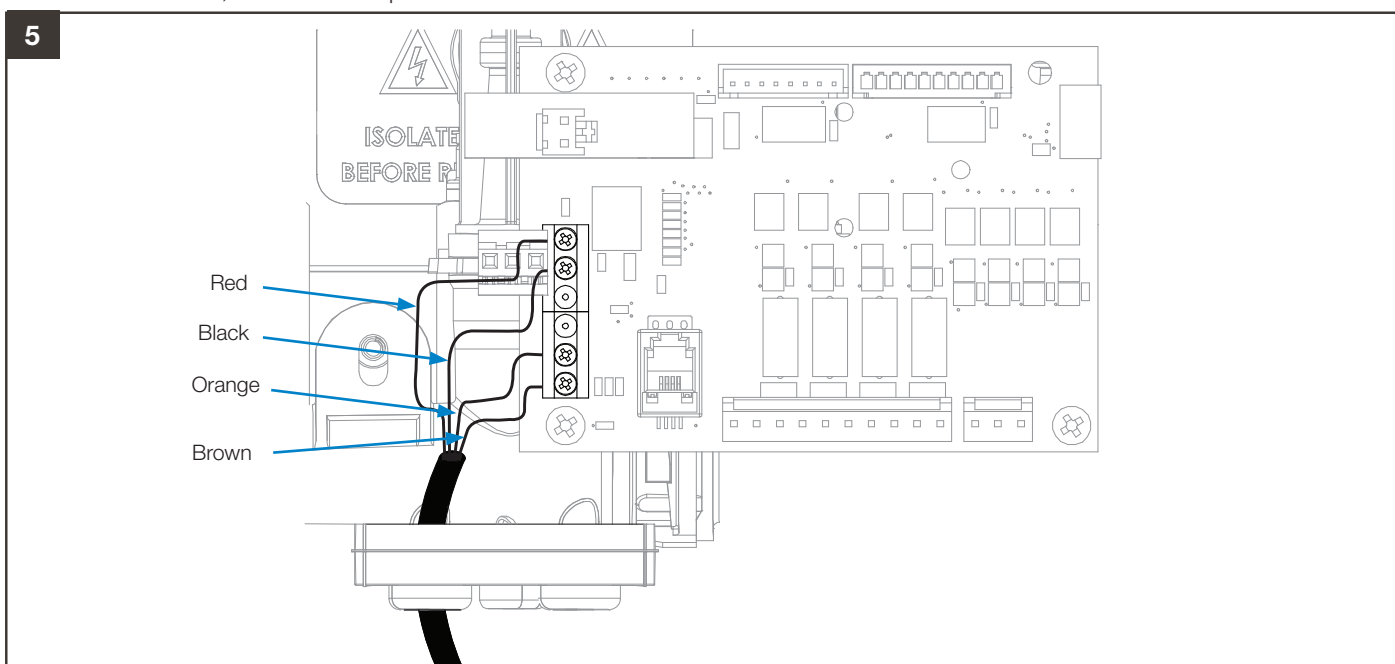


4. Insert cable through plate, using grommet/cable gland to fit in place. (Note: Install to the dimension indicated).



5. Connect red & black wires from the Low Level Alarm to the corresponding red & black wires on the screw terminal block. Connect orange & brown wires to the positive & negative terminals of the EvoClean alarm input.

Once installed, cable tie into position.



Once wiring is complete, replace rear cover and screw onto the EvoClean.

## 7. Set up

### 7.01 Switching the alarm from normally open to normally closed (LLA2000L8S & LLA2000L8SU versions only)

The Alarm is factory set to work with chemical depletion wands that have a normally open float switch. If this needs to be changed to normally closed, follow the procedure below:

When the unit is turned on, the LEDS on the front will begin to cycle. If this is in an upward direction, the unit is set to normally open. If the LEDS cycle in a downward direction, the unit is set to normally closed.

To change to mode:

- Switch the unit on
- On start up all the LED's will flash in a cyclical sequence, during this stage, press and hold the mute button.
- The cycle direction of the LEDS will reverse
- Once the cycling stage has finished, release the mute button.

To change the mode back, switch the power off and repeat the process above.

**Note:** This feature is not available on the dispenser powered version of the Low Level Alarm ( LLA2000L8D ), which are permanently set to 'normally open' probes, in order to function with the EvoClean.

### 7.02 Configuring the EvoClean (LLA2000L8D version only)

The EvoClean will need to be configured to operate with the Alarm. This can be pre-set set using the 'EvoClean formula editor software' (Available from Hydro systems Europe website in 'downloads') or manually using the user interface screen on the product.

Manually configuring the EvoClean:

- Enter setup
- Edit settings
- Products alarms
- Sensor



## 8. Operation

### LLA2000L8S, LLA2000L8U

If a product is low in one of the eight monitored containers the appropriate LED will flash and the alarm will sound. Pressing the alarm 'mute' button will silence the alarm sound. The relevant LED will remain illuminated, with solid light, until the chemical has been successfully replenished.

### LLA2000L8D

If a product is low in one of the eight monitored containers the appropriate LED will flash on the Low Level Alarm unit and on the EvoClean unit, the EvoClean alarm will also sound. Pressing the EvoClean 'enter' button (as shown below) will silence the alarm sound. The relevant LED on the Low Level Alarm and the LED on the EvoClean will remain illuminated, with solid light, until the chemical has been successfully replenished.



EvoClean 'enter' button.

## 9. Troubleshooting

Error	Cause	Error Diagnostics
Power LED's not illuminated	No power to the unit or the wrong voltage	Verify correct voltage is being used & unit is wired correctly
The display flickers or is unstable	Loose connection in the power supply or the sensor	Check for loose connections
LED's flashing & unit sounding	Unit is set to 'normally open' with 'normally closed' probes	Switch to 'normally closed', following steps outlined in <a href="#">section 7.01</a>
LED's flashing & unit sounding	Unit is set to 'normally closed' with 'normally open' probes	Switch to 'normally open', following the steps outlined in <a href="#">section 7.01</a>
Out of chemical LED illuminates or alarm sounds, but EvoClean does not register signal (LLA2000L8D ONLY)	EvoClean not configured correctly	Follow <a href="#">section 7.02</a>
	Wiring into EvoClean unit incorrect	Check EvoClean wiring is correct, using <a href="#">section 6.3</a> as a guide

## 10. Warranty

**Seller** warrants solely to **Buyer** the products will be free from defects in material and workmanship under normal use and service for a period of one year from the date of completion of manufacture. This limited warranty does not apply to (a) hoses; (b) products that have a normal life shorter than one year; or (c) failure in performance or damage caused by chemicals, abrasive materials, corrosion, lightning, improper voltage supply, physical abuse, mishandling or misapplication. In the event the Products are altered or repaired by **Buyer** without **Seller's** prior written approval, all warranties will be void. **No other warranty, oral, expressed or implied, including any warranty of merchantability or fitness for any particular purpose, is made for these products, and all other warranties are hereby expressly excluded.**

**Seller's** sole obligation under this warranty will be, at **Seller's** option, to repair or replace F.O.B. **Seller's** facility in Cincinnati, Ohio or Bracknell, England any Products found to be other than as warranted.

### Limitation of Liability

Seller's warranty obligations and Buyer's remedies are solely and exclusively as stated herein. Seller shall have no other liability, direct or indirect, of any kind, including liability for special, incidental, or consequential damages or for any other claims for damage or loss resulting from any cause whatsoever, whether based on negligence, strict liability, breach of contract or breach of warranty.

## 11. Decommissioning and Disposal

Hydro products are manufactured from materials which can be recycled. Dispose of Hydro products in accordance with the current local regulations.

- All electrical connections have been removed and disposed of according to local regulations
- Any hazard Warning signs have been removed or totally defaced
- Safe for disposal sign attached appropriately to each of the listed items.
- The items have been left in a condition such that it is safe for lay personnel or contractor to remove it without need for precautions against exposure to any electrical supply or other agents.

## 12. Electrical approvals

Compliance to standards and test data / EC declaration of conformity  
This Low Level Alarm complies with the following EU directives;

2014/35/EU	Conforms with the safety objectives of the low voltage directive and its amending directives.
2014/30/EU	Conforms with the essential requirements of the electromagnetic compatibility directive and its amending directives.
North America	Conforms to ANSI/UL Std. 60730-1:2016 Ed. 5 Certified to CAN/CSA Std. E60730-1 2016 Ed. 5

## 13. WEEE – Waste Electrical and Electronic Equipment

WEEE Regulations apply to companies who Manufacture & Distribute electrical or electronic equipment. (EEE)

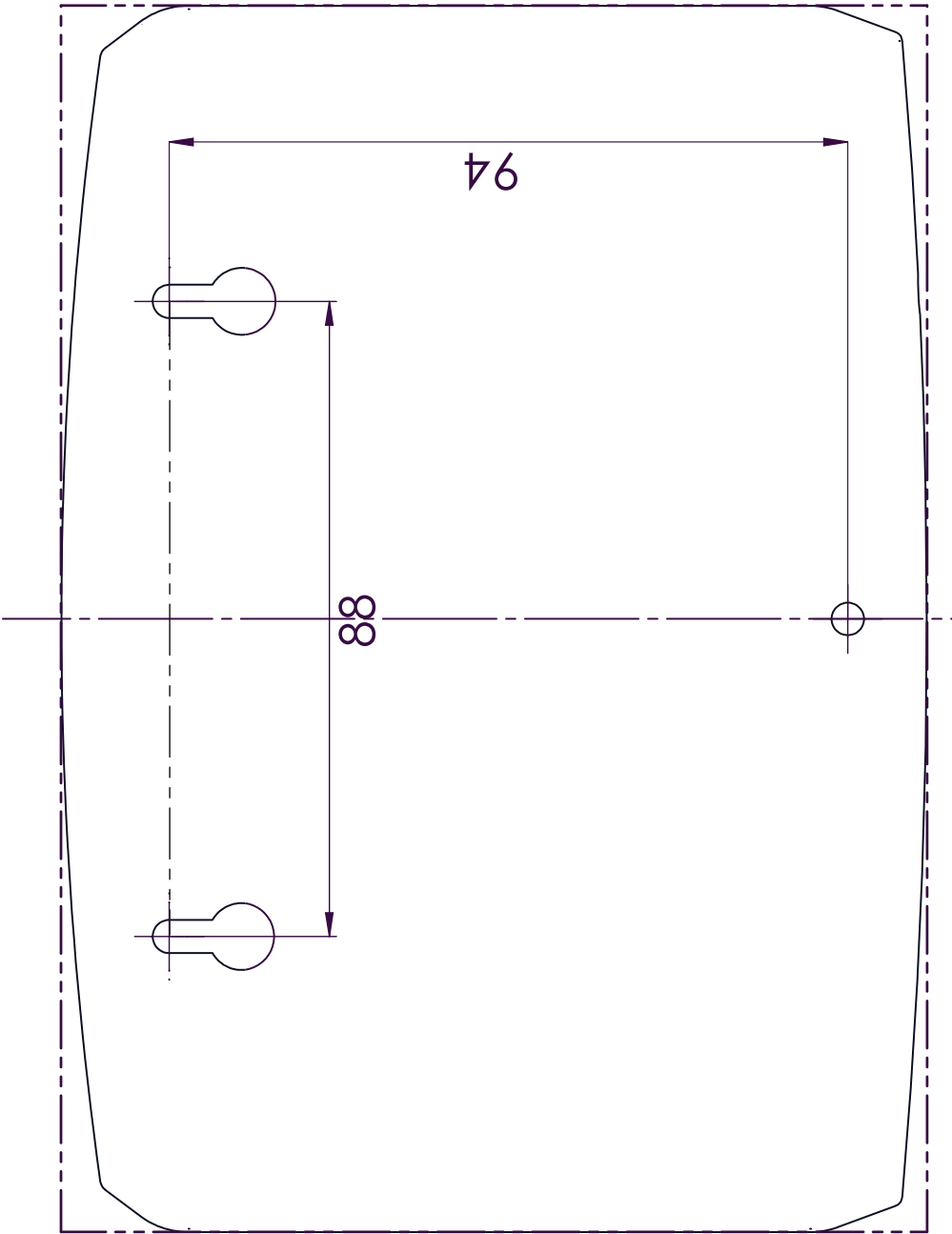
The WEEE Regulations apply to importers, producers, retailers and users of EEE, and to businesses that treat or recover WEEE. The Low Level Alarm unit is a product placed onto market POST 13.08.05 , therefore called 'future WEEE'. As a producer Hydro Systems Europe have the option to take responsibility for the EEE placed on the market. If Hydro Systems Europe chooses to receive WEEE they must make sure that it is disposed of in an environmentally sound way, including the treatment, reuse, recovery and recycling of the components where appropriate.

### **Responsibility as a producer of EEE**

Hydro Systems Europe, as a producer of EEE, are registered with a producer compliance scheme who register them with the relevant environmental regulator.

Through the regulator they become part of an approved producer compliance scheme (PCS).The PCS supply a unique and permanent producer registration number.

If disposal is outsourced it (the product) must be taken to an appropriately licensed site (approved authorised treatment facility - AATF) where it can be treated safely.



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