AlertMaxx2

Ground Water (DMS-270-2)

Installation & Operating Manual

Pump Station High Level Alarm

AlertMaxx2
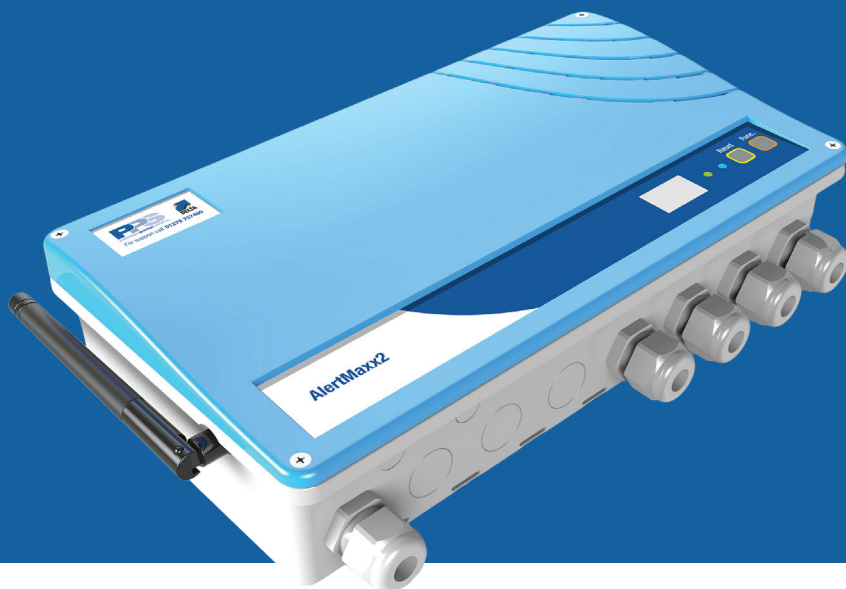
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1.0   AlertMaxx2 overview

The AlertMaxx2 is an intelligent high level alarm, designed to alert home owners when the water level in their pump chamber becomes too high. The unit will also inform home owners when a service is due on their pump station.

CAUTION!
The AlertMaxx2 should only be installed by qualified personnel in accordance with the latest regulations.

2.0   Box contents

2.1   Cardboard box contents

- 1 x AlertMaxx2 Unit
- 1 x Chamber Location Sticker Sheet (For AlertMaxx2)
- 1 x Chamber Location Sticker Sheet (For Spurs)
- 1 x Installation & Operating Manual (this document)
- 1 x Homeowner Pack
- 1 x Finger Float Switch complete with washers and securing nut
- 1 x Finger Float Housing
- 3 x Cable Ties

2.2   AlertMaxx2 unit contents

- 5 x Large Cable Glands & Nuts
- 3 x Large Blanking Plugs & Nuts
- 1 x Small Cable Gland & Nut
- 2 x Small Blanking Plugs & Nuts
- 1 x 6V Battery

3.0   Technical information

AlertMaxx2 Specification	
Size (without cable glands)	W: 310mm x D: 170mm x H: 78mm
Weight (AlertMaxx2 unit)	1kg
Mains Supply	200-250V AC (50Hz)
Internal Battery	Pb 6V - 1.2Ah
Alarm Sound Level	100db @ 30cm
Visual Display	2 x 7 Segment
Operating Temperature	5-40°C
Approximate Installation Time	30 minutes
IP Rating	IP2X

4.0   Health & Safety

In order to minimise the risk of ill health or accidents when installing and/or servicing pump chambers and associated accessories, workers must be fully trained and competent. The following guidelines will help safeguard matters:

- Assessing the risk and working in accordance with the control measures identified.
- Ensure electrical power to the equipment is isolated before carrying out installation or maintenance.
- A suitable first aid kit must be close to hand.
- The electrical installation must comply with the requirements of BS 7671:2008 'Requirements for Electrical Installations' incorporating amendment 3:2015.

5.0   Guarantee

AlertMaxx2 is offered with a 24 month component guarantee. This guarantee only covers any defects in workmanship, construction or material. This guarantee does not cover, defects caused by incorrect installation, installer error, abnormal working conditions, misuse or neglect.

6.0   Unit location

The AlertMaxx2 must be positioned in an area where the alarm can be clearly heard and is permanently accessible for servicing. The unit must be positioned where there is sufficient air circulation to the front and base vents. The AlertMaxx2 must not be located further than 10m from the pump/s it is being used in conjunction with. If cable extensions are required, these must be selected in accordance with BS 7671:2008 'Requirements for Electrical Installations'. If using in conjunction with a PowerMaxx battery backup, please ensure the units are no further than a 20m cable length from each other. **The AlertMaxx2 should be positioned in an area where there is a good Wi-Fi signal strength.**

CAUTION!
The AlertMaxx2 unit is not waterproof and must be installed indoors or inside a kiosk.

7.0   Mounting the AlertMaxx2 unit

1. Remove the screws from the front of the unit that secure the front fascia (the internal ribbon cable will be disconnected on supply).
2. Using the 4 mounting holes provided, mark, drill and fit suitable wall plugs in to the chosen wall for installation (ensure correct wall plugs are used for the wall type).
3. Secure the AlertMaxx2 unit to the wall using appropriate screws for the wall plugs used.

PLEASE NOTE
When securing the unit to the wall, avoid overtightening the screws as this may cause the box to crack.

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The AlertMaxx2 is different from a standard high level alarm, as the pump/s require to be fed through the unit. This way of connectivity allows the AlertMaxx2 to collect various different parameters directly from the pumps and when connected via Wi-Fi, this data can be used to intelligently plan maintenance and service schedules to the specific pump station it is connected to (see page 15).

Separate 16 Amp RCBO's

AlertMaxx2 High Level Alarm
(DMS-270-2)
For internal wiring of the high
level alarm, please refer to the
AlertMaxx2 instruction manual.

13 Amp Non-switched
fused spurs

L E N   L E N

Finger Float Switch
Supplied with a 10m cable

- The pump is supplied with a 10m cable.
- When only using the standard 10m
cable attached to the pump, the cable
duct should be no longer than 6m.
- If the cable duct requires to be longer
than 6m, please follow the cable
extension guide to select an appropriate
cable core diameter.

SECONDARY   **PRIMARY**

**The electrical installation must comply with the requirements of
BS 7671:2008 'Requirements for
Electrical Installations' incorporating amendment 3:2015**
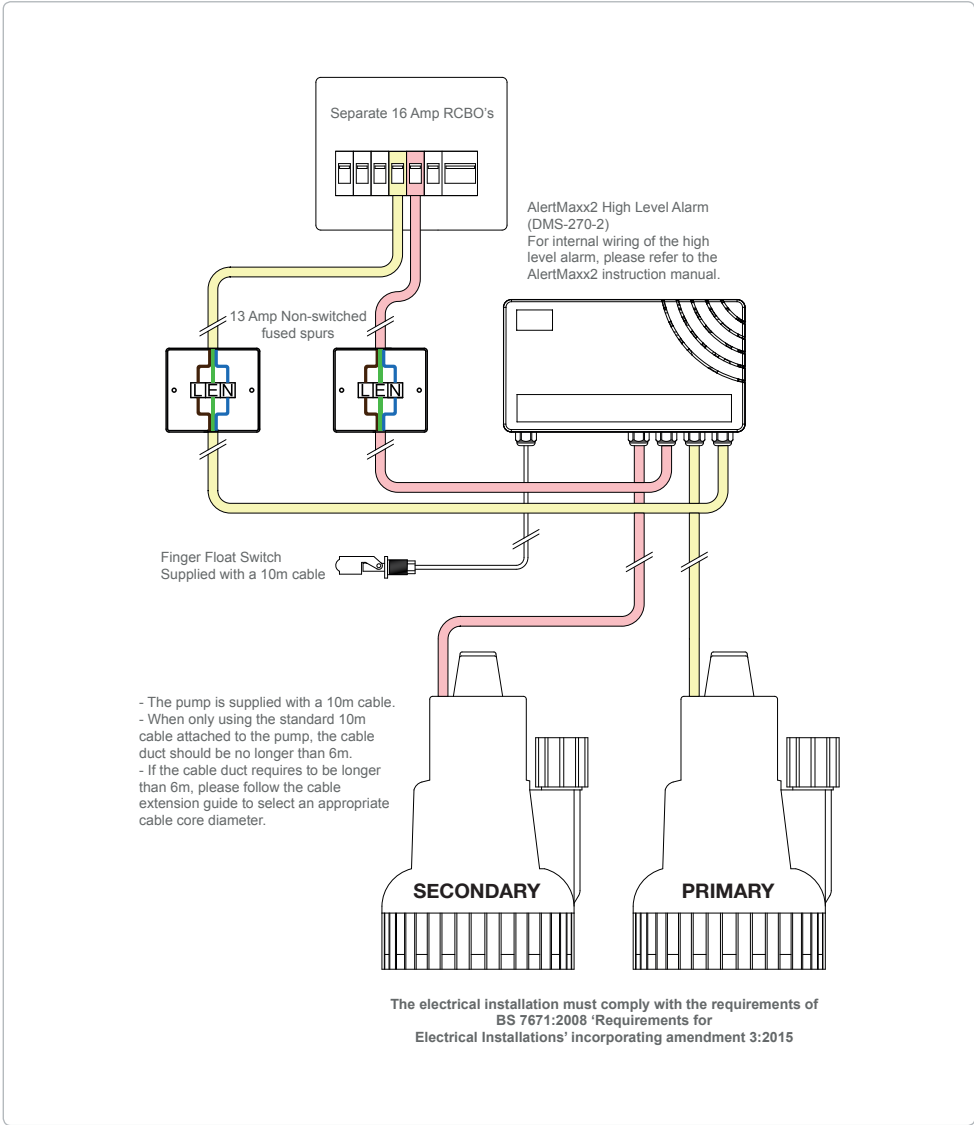
Figure 1. AlertMaxx2 wiring schematic

9.0   Connecting mains power to the AlertMaxx2

1. Insert 4 large cable glands into the far right hand side of the AlertMaxx2 unit.
2. Using the wiring schematic (figure 1), feed the mains power cables through the relevant cable glands and connect the power cables to the corresponding terminal blocks on the main PCB (figure 2).

WARNING!
Ensure mains power is isolated before connecting and wiring to the AlertMaxx2 unit.

PLEASE NOTE
For ease of installation, each gland is located directly opposite its relevant terminal block.
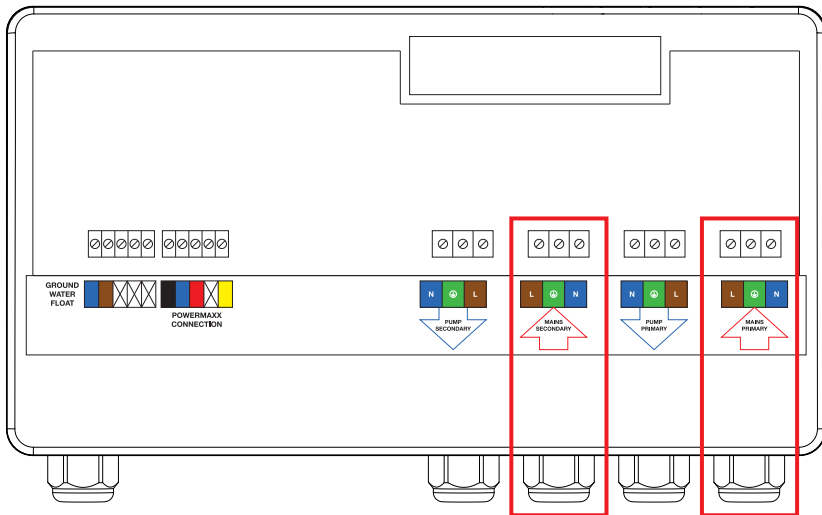Follow the internal sticker for wiring guidance.

Figure 2. Connecting mains power

PLEASE NOTE
If you are only connecting one pump to the AlertMaxx2, the **MAINS PRIMARY** must be used.

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1. Using the remaining cable glands previously installed in section 9.0, feed the pump cables through the glands and connect to the corresponding terminal blocks on the main PCB (figure 3).
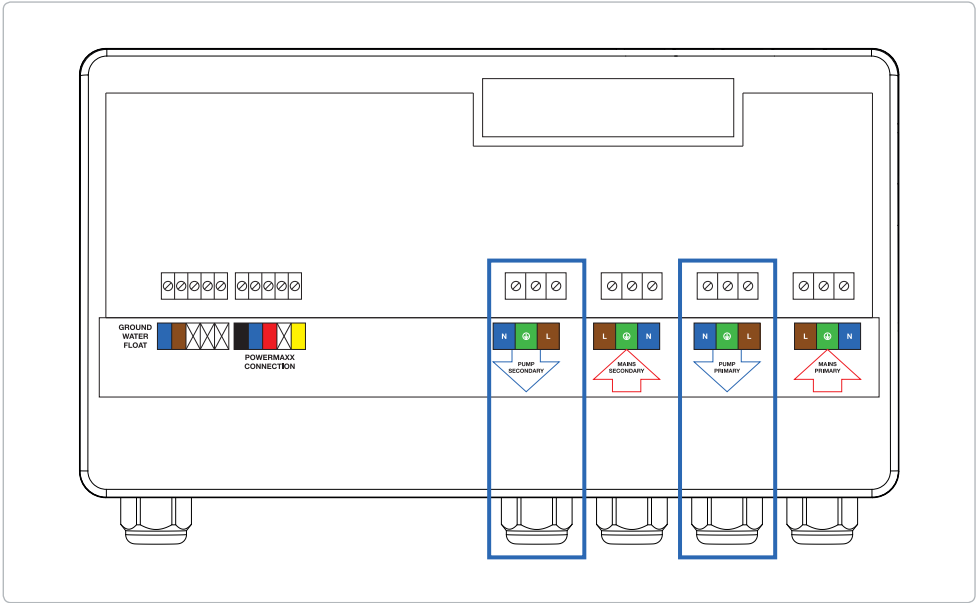

Figure 3. Connecting pumps

PLEASE NOTE
If you are only connecting one pump to the AlertMaxx2, the **PUMP PRIMARY** must be used.

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11.0 Installing a finger float into a ground or surface water chamber

1. Using the nut and washers provided, secure the finger float to the inside of the float housing so that the float rises with the rising water level (figure 4).
2. Using the two cable ties provided, attach the float housing to the discharge arm so it is 300mm from the base of the chamber (figure 5).
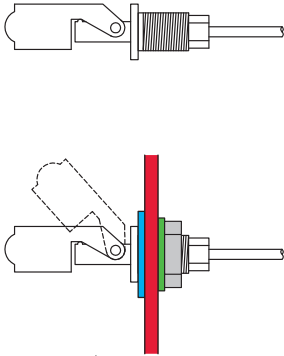
The finger float must raise with the rising water level!

300mm

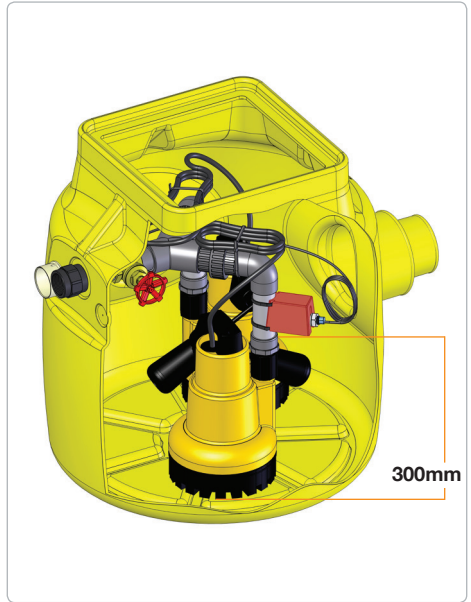Figure 4. Ground Water Float Switch

Figure 5. Ground Water Sump (DMS-164)

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12.0 Connecting a finger float to the AlertMaxx2 unit

1. Using a draw cord, pull the float cable through the cable duct on the chamber.
2. Insert a large cable gland into the far left hole of the AlertMaxx2 unit.
3. Pull the float cable through the large cable gland on the AlertMaxx2 unit.
4. Connect the blue and brown cables from the float switch cable to the terminal strip (figure 6).

PLEASE NOTE

If the cable supplied with the float switch is too short, the cable can be extended using a cable with a minimum core cross sectional area of 1mm².
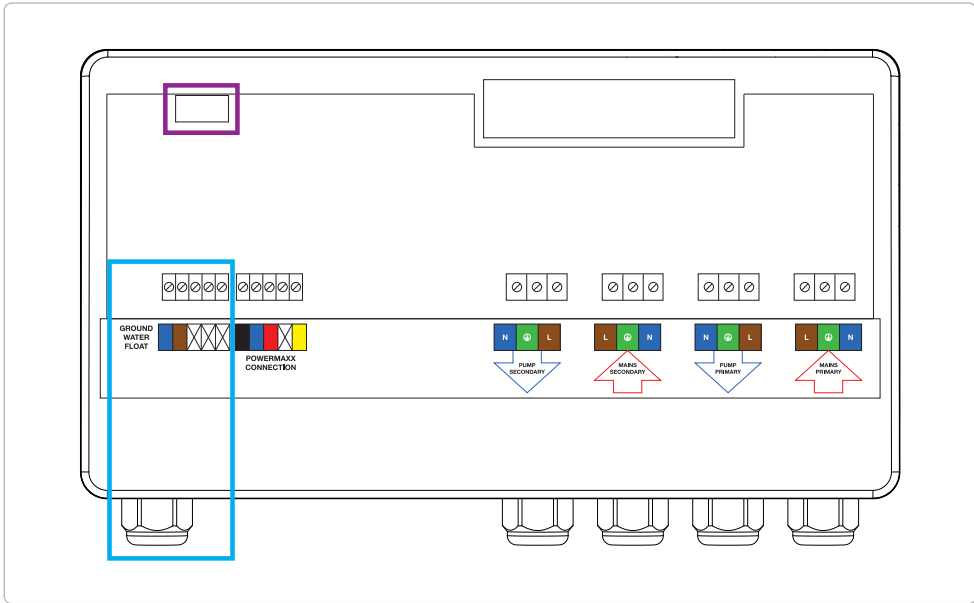

Figure 6. Wiring a finger float switch

PLEASE NOTE

Only the first two (far left) inputs on the float terminal block are used - **Blue & Brown**

13.0 Activating & testing the AlertMaxx2 unit

Before going through the testing process, ensure the mains power to the AlertMaxx2 unit is isolated.

13.1   Connecting the ribbon cable

On supply, the ribbon cable that is used to pass communication between the PCB on the fascia and the motherboard is disconnected from the terminal on the motherboard.

This must be connected before proceeding to section 13.2

See highlighted area in PURPLE on figure 6 (page 10) for terminal block location.

13.2   Turning on the AlertMaxx2 unit for the first time

1. Ensure the small black switch on the main PCB is set to the '**NO-SEU**' position.
2. Remove the plastic covers on the battery terminals and connect the red and black leads from the PCB on to the battery, red to red and black to black.
3. Resecure the battery to the unit by pressing the Velcro on the battery hard against the Velcro on the unit until a 'click' is heard.
4. Once the battery has been connected, the alarm will beep three times and the display will pulse in a left to right startup sequence.
5. After approximately 20-60 seconds, the display will flash a **PF** error code. *If there is only one pump connected to the AlertMaxx2, a P1 error code will flash instead*
6. Refit the front fascia.
7. Turn on the mains feeds supplying the AlertMaxx2 unit, within 20 seconds the **PF** code will disappear and the green LED will flash once every 2 seconds.

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CAUTION!
If the battery is misconnected to the AlertMaxx2 (i.e. black to red), this will destroy the unit. This can be detected by the manufacturer and will void the warranty.

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13.3   Testing the AlertMaxx2 unit

1. Test the alarm by pressing and holding the 'FUNC' button for 3-5 seconds and release. The alarm will sound and the display will show an **F1** code.
2. Press the 'RESET' button to clear the error code and sound.
3. Test the float switch by raising the float switch to its upright position. The alarm will activate within 10-15 seconds.
4. Release the float switch. The sounder will stop within 30 seconds and the display will flash an **F3** code. Press the 'RESET' button, the green LED will flash once every 2 seconds and the error code will clear.
5. Activate the float switch on pump 1 to start the pump. The display will show a cycling graphic which indicates the pump is running. Repeat for pump 2.
6. The activation & testing is now complete and the AlertMaxx2 unit is ready for use.

Once the AlertMaxx2 has been installed and fully tested, please apply one of the chamber location stickers, provided in the box, to the main label of the AlertMaxx2 fascia and one to its relevant fuse spur. This is to signify which pump station the high level alarm is connected to and which spur/s feed it.

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14.0 Connecting external devices

The AlertMaxx2 unit has volt free contacts to connect external devices such as an alarm or beacon. When the alarm is activated the relay sends a signal continuously.

The volt free relay is designed to accept devices with a maximum load of 0.5A and voltage up to 30V. If external devices fall outside these parameters, the device must be powered by an external power supply.

You can use the AlertMaxx2 to power external devices with a maximum voltage of 6-7V.

15.0 Servicing

The AlertMaxx2 will alert home owners when their pump station requires servicing. This is indicated by an **S1** error code followed by one beep every minute. The beep can be muted by pressing the 'RESET' button (the code will remain illuminated). The beep will return 7 days from pressing the 'RESET' button until a service technician resets the alarm unit.

The AlertMaxx2 unit has a factory default service interval of 12 months.

Code	Fault	Action
S1	Pump Station Service Required	Your pump station requires a service. The AlertMaxx2 will beep every minute. Please contact PPS to arrange a service visit.
S2	Battery Replacement (AlertMaxx2)	The battery in the AlertMaxx2 needs to be replaced. Please contact PPS to arrange a service visit.
S3	Battery Replacement (PowerMaxx, if installed)	The battery in the PowerMaxx needs to be replaced. Please contact PPS to arrange a service visit.

16.0 Spares

Part No.	Description
DMS-276	Broken finger float switch for ground and surface water applications
DMS-277	Shroud for broken finger float switch
DMS-275	Rechargeable 6V battery

17.0 Error codes

Code	Fault	Action
F1	Flood	There is a high level in the pump station. Contact PPS urgently.
F3	Flood has occurred	There has been a high level in the pump station which has returned back to normal. If this problem arises again, contact PPS.
P1	Mains Failure - Primary Pump	There is a power failure on the primary pump. Try to restore power and if problem persists, contact PPS as soon as possible.
P2	Mains Failure - Secondary Pump	There is a power failure on the secondary pump. Try to restore power and if problem persists, contact PPS as soon as possible.
PF	Mains Failure on all pumps	There is a power failure to all pumps. If you have had a power cut this will return to normal when power returns. **If you have no PowerMaxx in place, there is the potential of flooding.** AlertMaxx2 will run on battery power for 2 days. If you haven't had a power cut, try to restore power and if the problem persists, contact PPS as soon as possible.
E1	Float/Cabling Error	There is an error with the float cabling which will need to be rectified. Please contact PPS.
E2	Cannot find the SEU card	Please contact PPS to rectify.
E3	Problem with the SEU card	Please contact PPS to rectify.
E4	No response from server	Please contact PPS to rectify.
E5	Cannot find PowerMaxx	The AlertMaxx2 cannot communicate with the PowerMaxx, the units will continue to work correctly but data will not be transmitted. Please contact PPS to rectify the cabling.
E8	SW error	There is a software error on the AlertMaxx2 and this will need to be updated. Please contact PPS to update.
E9	SW error (panel cannot talk to system)	There is a software error on the AlertMaxx2 and this will need to be updated. Please contact PPS to update.
CA	Call PPS	If you see this code, please contact PPS at your earliest convenience.
PA	PPS is aware of your situation and will be in contact	If you see this code it means PPS are aware of the situation at your property. PPS will be in contact.

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17.0 Error codes cont.

LED	Meaning
GREEN slow flash	All systems OK
BLUE slow flash	Wi-Fi OK - connected to Gateway OK
BLUE fast flash	Wi-Fi transmitting
BLUE fixed	Wi-Fi in setup mode
BLUE No light	Wi-Fi not installed or not functioning

18.0 Troubleshooting

Fault	Cause
The unit does not turn on.	The battery is flat - charge the battery by connecting mains to the alarm unit. Still doesn't turn on after 3 minutes - alarm unit or internal battery is faulty.
The decimal points on the displays jump from left to right.	Low battery - charge the battery by connecting mains to the alarm unit.
The alarm does not activate when the float switch is lifted.	Float switch cable is faulty - check float switch connections and cable for damage. Float switch is broken - replace float switch. Float cable is broken - replace float switch.
The alarm does not activate when pressing the 'FUNC' button for 3-5 seconds.	Faulty unit.
Alarm continuously active.	Float has been incorrectly wired - check the cables are connected correctly as per the internal label. Finger float has been installed upside down.

19.0 PPS Technical Department

If you are experiencing any technical issues, please contact the PPS Technical Department on **01279 757400** from 9:00am - 5:00pm or email **info@ppsgroupuk.com**.

20.0   PowerMaxx Connection

The AlertMaxx2 can be connected to a PowerMaxx, PowerMaxx+ or Hi-PowerMaxx to provide additional battery backup and if connected via W-Fi, battery backup capacity and condition is fed directly to the PPS Op-Centre.

The PowerMaxx, PowerMaxx+ and Hi-PowerMaxx are supplied with 3m of 4 core MaxxConnect family cable.

The AlertMaxx2 can only be connected to PowerMaxx, PowerMaxx+ and Hi-PowerMaxx which is running the software version 3.0 or higher. This can be identified by the software identification sticker on the back of the battery backup units.

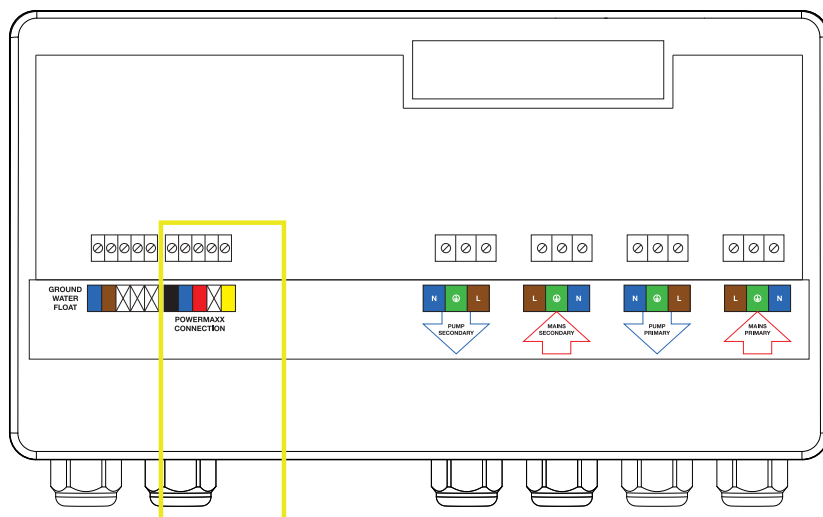Please refer to the battery backup instruction manual for final connections.

Figure 7. AlertMaxx2 PowerMaxx connection terminal

PLEASE NOTE
For wiring the pumps, please refer to the PowerMaxx manual.

The AlertMaxx2 must be installed in series to the PowerMaxx - this means the AlertMaxx2 must be installed in between the PowerMaxx & the pump/s.

After Sales Service

All Delta Membrane pump systems are fitted & can be maintained by our partners, Packaged Pump Systems. With our long-term relationship we ensure that the system selected is fit for your requirements, is delivered on time, professionally installed & offers hassle free on-going operation & maintenance.

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- **Emergency breakdown service**
- **Out of hours service**
- **Planned maintenance**
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Passionate
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From fitting to scheduled maintenance we ensure your needs come first.

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