

# Plant Room Shield

## Installation & Operation Guide



### IMPORTANT:

READ CAREFULLY BEFORE USE. KEEP FOR FUTURE REFERENCE.

#### Notice to Installer:

This document contains important information about the installation, operation and safe use of this product – this information **must** be read before the installation and start-up of this product. **Once the product has been installed this document must be given to the owner/operator of this equipment.**



## Safety notices:

**⚠ WARNING** This equipment must be installed by qualified persons only. Improper installation can create electrical hazards which could result in property damage, serious injury or death. Improper installation will void the warranty.

**⚠ WARNING** A qualified electrician must carry out all electrical wiring in accordance with local electrical regulations.

## About the product

Plant Room Shield is designed to detect swimming pool water where it should not be present in the pool plant room and isolate the power to the pool pump in order that the volume of escaping water is minimised. If activated as such the Plant Room Shield will, when set up correctly, send a notification to a mobile telephone that an action has occurred, thus notifying the pool owner/operator that a potential flood situation has taken place\*.

\*Mobile alerts require an active sim card installed within the unit. The unit is pre-installed with a sim card that will remain active for 7 days from its first use. To continue using the pre-installed sim card please register the sim card by calling Better M2M on 0203 924 0203 or email [info@betterm2m.com](mailto:info@betterm2m.com). When contacting Better M2M please give them your sim card number that can be found on the inside of the front cover.

The sim card pre-installed with the device will work on all phone networks and will select the network with the strongest signal in your area. The pre-installed sim card is specially designed to be used in harsh environments.

Should you wish, you may replace the pre-installed sim card with your own sim card.

**⚠ NOTICE** Plant Room Shield is designed to lower the risk of plant room flooding resulting from swimming pool related plant room leaks. It is not a replacement for diligence or regular inspection, maintenance and correct upkeep of equipment and systems nor will it protect against damage due to water ingress or escape.

**⚠ NOTICE** Plant Room Shield should only be used with single phase pumps up to a maximum of 3HP. To use on larger pumps or three phase pumps please use the device to control a suitable contactor that supplies power to the pump.

**⚠ NOTICE** In order to aid in Plant Room Shield's continued correct operation, a monthly performance test should take place and be recorded to identify that the device operates correctly – see page 10. If at any point the device should not operate correctly it should not be relied upon to notify of a potential flood situation. Contact your supplier.

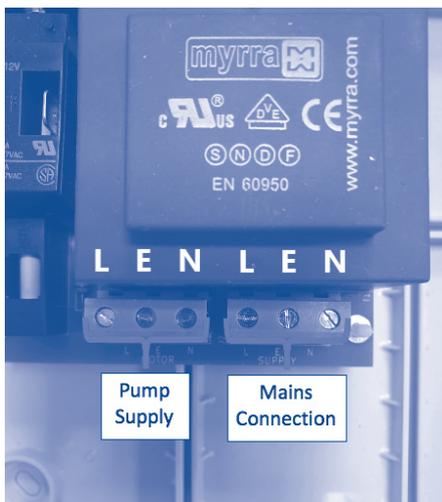
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# 1. Installation

## Initial setup:

1. Aim to position the device, on a solid surface, so that it is visible and fully accessible and so that the power connections to the mains supply and pool pump, along with the lead for the leak detection probe, are comfortable in distance.
2. Open the device by unscrewing the two right hand screws and loosening the two left hand screws to allow the front panel to hinge open to the left.
3. Securely mount the panel to the wall using four fixings (not supplied) through the fixing holes
4. Mount the flood sensor onto your wall at floor level, with the prongs touching the floor. If the floor is prone to condensation the prongs may need to be slightly off the floor by 1-2mm. This should be in a location near to the pump and filter that is likely to get wet quickly should a leak occur.
5. Take the aerial rod which is stored with the unit and screw this on to the aerial connection on the top of the unit.
6. Install a power supply cable (not supplied) to the unit via the middle cable gland. Install the Live, Earth and Neutral cables into the labelled "Supply" terminals.
7. Install the pump power cable (not supplied) into the unit via left cable gland. Install the Live, Earth and Neutral cables into the labelled "Motor" terminals.



8. Close the front panel and tighten the four front plastic screws.

Your system is now set up and ready to shut down the filtration system in the event that a flood is detected.

The power supply to the unit can now be switched on and the operation tested. Perform a test by powering up the unit and moving the switch on the front panel to the auto position. Provided the flood sensor is dry and not detecting water the pump should now run and the green light on the panel illuminates.

Now pour a cup of water on to the floor near the flood sensor wetting the floor where the prongs are located to simulate a flood. The unit should now stop the pump, turn off the green light, sound an internal buzzer within the unit and the red light should illuminate on the front of the panel.

To reset the unit, dry the floor around the flood detection probe, move the switch on the front of the unit to the off position then move it back to the auto position.

## 2. Setup of mobile phone alerts

This will allow the module to send you alerts in the event of a flood within the plant room being detected. You will be alerted via a single text message and a single follow up phone call from the device.

1. To set your phone to be alerted, you need to send a text to the SIM card you installed within your device. The phone number for the pre-installed sim can be found on the inside of the front cover within the device.
2. Save the pre-installed sim card phone number in your phone as "Plant Room Shield"
3. Make sure the unit has power to it and the front switch is in the auto position and the green light is illuminated.
4. Send the following message to the contact Plant Room Shield within your phone (Contact now saved within your phone):  
SMS1=your phone number (note do not use any spaces in your text)  
e.g. SMS1=07xxxxxxx (replace with your phone number)



Your phone will then be sent the following text message:

'ACK SMS1=07xxxxxxx'

- This means your request has been acknowledged, your phone alerts are now set up! Upon detection of a leak the device will send you a text message alerting you to the issue followed up by a phone call. When the device calls you, it will come up on your phone as "Plant Room Shield" alerting you to an issue. If you answer the call you will not hear anything.

To carry out a test of this, pour a cup of water on floor near the flood sensor wetting the floor where the probes are located to simulate a flood. The unit should now stop the pump, turn off the green light, sound an internal buzzer within the unit and the red light should illuminate on the front of the panel as well as sending you a text message that will be followed up by a call.

To reset the unit, dry the floor around the leak detection probe, move the switch on the front of the unit to the off position then move it back to the auto position.

### Sim registration:

Mobile alerts require an active sim card installed within the unit. The unit is pre-installed with a sim card that will remain active for 7 days from its first use. To continue using the pre-installed sim card please register the sim card by calling 0203 924 0203 or emailing [info@betterm2m.com](mailto:info@betterm2m.com) and giving your device phone number that can be found on the inside of front cover. At the time of printing, there is a charge of £5 per month to use the pre-installed sim card.

The sim card pre-installed with the device will work on any phone network and will select the network with the strongest signal in your area. The pre-installed sim card is specially designed to be used in harsh environments.

Should you wish you may replace the pre-installed sim card with your own sim card.

**⚠ NOTICE** The Plant Room Shield requires an active and functioning SIM card in order to send notifications of a potential flood activation.

### 3. Advanced features on mobile alerts

The mobile alerts are programmed via text message commands. Bear in mind these are case sensitive.

**We recommend saving your device's SIM card phone number on your mobile as 'Plant Room Shield Flood Alert'.**

#### Adding additional mobile numbers to alerts:

The device is able to alert up to 5 mobile numbers which will all need a slot allocated.

- Each slot can be allocated by changing the command –
- for slot 2, text:  
SMS2=07xxxxxxxx you will receive a confirmation SMS message to as follows:  
'ACK SMS2=07xxxxxxxx' (07xxxxxxxx replace with your number)
- for slot 3, text:  
SMS3=07xxxxxxxx you will receive a confirmation SMS message to as follows:  
'ACK SMS3=07xxxxxxxx' (07xxxxxxxx replace with your number)
- for slot 4, text:  
SMS4=07xxxxxxxx you will receive a confirmation SMS message to as follows:  
'ACK SMS4=07xxxxxxxx' (07xxxxxxxx replace with your number)
- for slot 5, text:  
SMS5=07xxxxxxxx you will receive a confirmation SMS message to as follows:  
'ACK SMS5=07xxxxxxxx' (07xxxxxxxx replace with your number)

#### Check what number you have saved in your device:

To check the numbers you have programmed in your device, send an SMS message saying 'Status' to the device's phone number.

- You will then receive a confirmation of the numbers programmed
- A confirmation message will be received as follows (example: 'SMS1=07xxxxxxxx SMS2=07xxxxxxxx' etc)

#### To delete an incorrect or no longer used number:

- Send the command 'SMSx=' to the device phone number
- X is the slot number from 1 to 5 to be deleted
- If this is successful you receive this text: 'ACK SMSx='

**Note: Numbers can also be overwritten directly with a new number if required**

#### Setting call and message notifications:

- You can choose up to a maximum of 5 phone numbers that will receive calls or text alerts when the system is triggered
- To set the numbers that you would like to receive a call, send the command 'CALL1=' followed by the slot numbers that you would like to be called

Eg. CALL1=123 would mean slot 1, 2 and 3 will receive a phone call alert

## Check signal quality & strength

The signal strength of the GSM module can be tested by sending the following text message to your device:

“Signal”

You will receive a message back saying Signal followed by a number. For Example: “Signal: 23”

The number indicates how strong the signal strength is as per the below table

Number	Status
2 - 9	Marginal
10 - 14	Ok
15 - 19	Good
20 - 30	Excellent

As the pre-installed sim card works across all phone networks phone signal is rarely an issue but in the event that the device cannot get signal an extension aerial that comes with 3m of wire can be fitted to the device to allow the aerial to be located in a better position. This additional part can be ordered through your pool supplier from Certikin.

## Site ID – name your location:

- The site ID is pre-set to “Plant Room Shield”

Should you have multiple pools using the plant room shield you may wish to change the Site ID so when you receive alerts you know what pool it is for. This is also useful if your Pool Service Company is automatically alerted if your pool has an issue so they can identify what pool has the issue. The Site ID can be up to 20 characters.

## To change the site ID:

- Send the command “SITE=(Site id)”

Example “SITE=Pool1” or “Site=NN11 1ZX”.

You will receive a message back saying ‘ACK SITE=(Site id)’. Following this, please turn the main power to the unit off and back on again to reset the system.

## Confidence alerts:

As default you will receive a text message every two weeks from the device letting you know gsm alert module is functioning. This can be turned off or changed from 1 to 9 weeks.

To change the frequency of the alerts, send the device a message saying:

Auto=5

This would set the device to send confidence messages every 5 weeks. Change the number between 1 and 9 depending on how regular you would like to receive the confidence message.

To turn confidence messages off send the device a message saying:

Auto=0

You will receive a message back saying ‘ACK Auto=x’.

Confidence messages can be received to the number located in SMS1 only.

The Auto command can be programmed via the command Auto=x, x can range between 1 to 9 and represents the interval in weeks between the automatic confidence message being sent. The message received is "Automatic Notification - SMS module Active".

The unit counts the weeks from the time of switching on. A trigger event does not alter the timing. Eg even if an alert event occurs, the confidence message is still received at the same intervals.

## Setting call & message notifications:

As default all number saved within the device will receive calls and texts should a flood be detected.

Should you wish for some numbers only to receive text or only calls you can do this by changing the following.

You can choose which numbers, up to a maximum of five, to receive calls and or text alerts when the system is triggered.

Each number after the '=' relates to the slot of where the numbers have been saved.

Send the command

```
CALL1=12345
```

Remove any number of slots you wish not to be alerted via call.

You will receive a message back saying 'ACK CALL1=xxxx'

Send the command

```
TXT1=12345
```

Remove any number of slots you wish not to be alerted via text message.

You will receive a message back saying 'ACK TXT1=xxxx'

You can set the system to call one or more of the numbers and the same with text messages in any combination, see example:

```
CALL1=135 - Only these numbers will be called
```

```
TXT1=1245 - Only these numbers will receive a text message
```

Note: CALL1 & TXT1 are used to call / send message 1 – when a flood is detected

## Power restart alerts:

In the event of a power failure upon power restart the phone number saved in slot 1 will receive an alert letting them know there has been a power failure and the unit has now been restarted. The message will come through as "Plant Room Shield - Power Failed and restored"

These alerts can be switched off by sending the below text message to the unit:

```
POW=N
```

You will receive a message back saying 'ACK POW=N'

These alerts can be switched back on by sending the below text message to the unit:

```
POW=Y
```

You will receive a message back saying 'ACK POW=Y'

## Pre-Installed sim card:

The unit comes complete with a pre-installed sim card that will be active on you receiving the unit and will remain active for 7 days from its first use. To continue to use the pre-installed SIM card after this time it must be registered by calling 0203 924 0203 or emailing [info@betterm2m.com](mailto:info@betterm2m.com) giving the phone number of the sim card within your device. The phone number can be found inside the Plant Room Shield on the inside of the front cover. At the time of printing the charge to use the pre-installed sim card is £5 per month.

The pre-installed SIM Card must NOT be put into any other device as this will cause the SIM card to be deactivated. The sim card is subject to a fair use policy and must only be used within the Plant Room Shield. If miss use of the sim card is detected it will be cut off without warning. In the event of any issues with the Sim Card please contact 0203 924 0203

**⚠ NOTICE** The Plant Room Shield requires an active and functioning SIM card on order to send notifications of a potential flood activation.

## 4. How to replace the sim card within the unit

Should you wish to replace the sim card within the unit you may do so using the bellow guide. Please note the pre-installed sim card within the unit is a specially designed sim card for use in harsh environments.

1. Ensure power is isolated to unit before removing the front cover.
2. Open the device by unscrewing the two right hand screws and loosening the two left hand screws to allow the front panel to hinge open to the left.
3. The GSM module is located on the right-hand side of the unit and looks like image 2.
4. The GSM module is held in place with Velcro and can carefully be removed by separating the Velcro, being careful not to pull on the arial cable or connecting wires.
5. Push down on the top of the unit where the sim card is located, and the sim card will pop up and can now be removed.
6. Please insert your new SIM into the module as shown in image 2 ensuring it is fully inserted.
7. Ensure your SIM card contacts are facing the correct way as per image 2 and the cut corner is to the top right.
8. Resecure the GMS module in place using the Velcro.



Image 2

## 5. Operation

### Normal operation of the unit:

-**Switch in Auto Position.** For normal operation of the unit the switch should be in this position. In this position the unit will shut down the pump and alert when a flood has been detected.

-**Switch in Off Position.** This position should be used when it is required to turn the pump off for maintenance.

-**Switch in Override Position.** This position should only be used when cleaning of the plant room is being carried out and the floor has intentionally become wet. With the switch in this position the unit will **NOT** stop the pump in the event of a flood being detected and will not send any alerts. Ensure the switch is **NOT** left in this position after cleaning of the plant room has been completed. When the switch is in the override position both the green and red light will illuminate to give you a visual indication. On completion of cleaning, revert the switch to the Auto Position.

## 6. Maintenance and testing of the unit

It is important to test the device for full performance on a monthly basis.

To carry out a test of the unit, make sure the switch on the unit is in the auto position, the green light is illuminated, and the pump is running. Now pour a small amount of water on to the floor near the flood detection sensor, wetting the floor where the probes are located to simulate a flood. The unit should now stop the pump, turn off the green light, sound an internal buzzer within the unit and the red light should illuminate on the front of the panel as well as sending you a text message that will be followed up by a call.

To reset the unit, dry the floor around the leak detection probe, move the switch on the front of the unit to the off position then move it back to the auto position.

**⚠ NOTICE** If at any point the device should not operate correctly during a test it should not be relied upon to notify of a potential flood situation. Contact your supplier.

Monthly test result should be recorded on the log on page 11.





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