PowAlert GSM Mains Monitoring Unit

Image subject to change

The PowAlert remote GSM mains monitor is designed to transmit text messages to stored phone numbers when a mains failure is detected. The unit can store up to three numbers, which are set by sending commands via text message to the phone number associated with the inserted SIM card. When a mains failure is detected the unit will send up to four messages, once an hour, warning of a mains failure to each one of the stored numbers. After this time the unit will enter stasis mode and will not come back online until power is restored. The unit also has an auxiliary input to which and external switch may be connected.

Before the unit can be used a valid, full sized SIM card needs to be inserted. The SIM card will need to be already registered with the SIM card provider and have credit on it if it is pay as you go. The SIM will also need to be unlocked and not PIN protected, which most SIM cards are by default. It is recommended that the SIM card be first tested in a regular mobile handset to ensure that it is working properly, as not all providers can guarantee reliable operation. For example our tests have shown Vodafone SIM cards do not work correctly due to the service message system put in place by the provider. It may also be worth disabling voice message notifications.

Note. When this unit is new from the factory the batteries are fitted but are not connected until the unit is connected to the mains via its plug in power supply for the first time. They will disconnect after the forth reminder message in "mains fail" and will not re-connect until mains is restored.

Installation

The unit should be wall or surface mounted as close as possible to the mains source of the equipment to be monitored, preferably connected to the same outlet. It is important to note that the location also requires a reasonable GSM signal, which can be estimated with a regular mobile phone.

When the device is first powered up a red light will flash while the unit seeks network connection. Once a connection is made the LED will switch from red to green briefly, then flash green once every 30 seconds approx. If the LED does not start to flash green after a few moments check that a valid SIM card is inserted and that the unit is place somewhere with good cellular reception. Press the unit's reset button (found on the circuit board) **once** and wait again for the red LED to start flashing green.

Commands:

The following commands can be sent by texting them to the number associated to the SIM card active in the unit:

Set <1-3> <number>

Use this to add a number to be notified when mains failure occurs. Up to three numbers can be stored, existing numbers will be overwritten. For example:
```
Set 1 07777112233
```
will store the number 07777112233 at location 1. IMPORTANT: verify that numbers are entered correctly. Performance of the unit cannot be guaranteed if it is incorrectly configured.

Unset <1-3>

Use this to remove a stored number. For example:
```
Unset 2
```
will remove the number stored at location 2.

Show set

Sending this to the unit will invoke a reply containing a list of all the numbers currently stored in the unit, in the order in which they will be contacted.

Test

Texting the word `test` to the unit will cause the device to send a message to all stored numbers. If one or more messages fail to be received reset the device if necessary and use `show set` to check that all stored numbers are correctly entered. Also check that the SIM card has a reasonable amount of credit available, if it is pay as you go.

Stop

When the unit has entered a mains fail state texting the word `stop` will prevent further warning messages from being sent. The unit will then be disabled and entered in to stasis mode. It will no longer be able to be reset until power is restored.

To clear all numbers stored in the device memory short the pair of jumper pins located on the board until the device LED blinks in a multi-coloured pattern. The unit will have then been restored to factory condition.

Notes

Sometimes it is easy to assume that the unit has malfunctioned when it no longer appears to send text messages in mains failure state. A common mistake is to not realise that pay as you go SIMs may have run out of credit, and the unit is simply no longer able to send text messages over the network. This should always be the first thing to check in such a scenario.

The unit has been tested and known to work well with Orange, O2, EE and GiffGaff network providers. Other providers should work but performance may vary.

When the unit is actively receiving a message the status LED will flash green. When a message is being sent the LED will flash red and green alternately.

When storing the unit the batteries will remain active after mains disconnection. Batteries should be disconnected or removed to prevent them from being flattened.

Once approximately every 7 weeks the unit will send a self-test message, to prevent automatic SIM card deactivation over long periods of time.
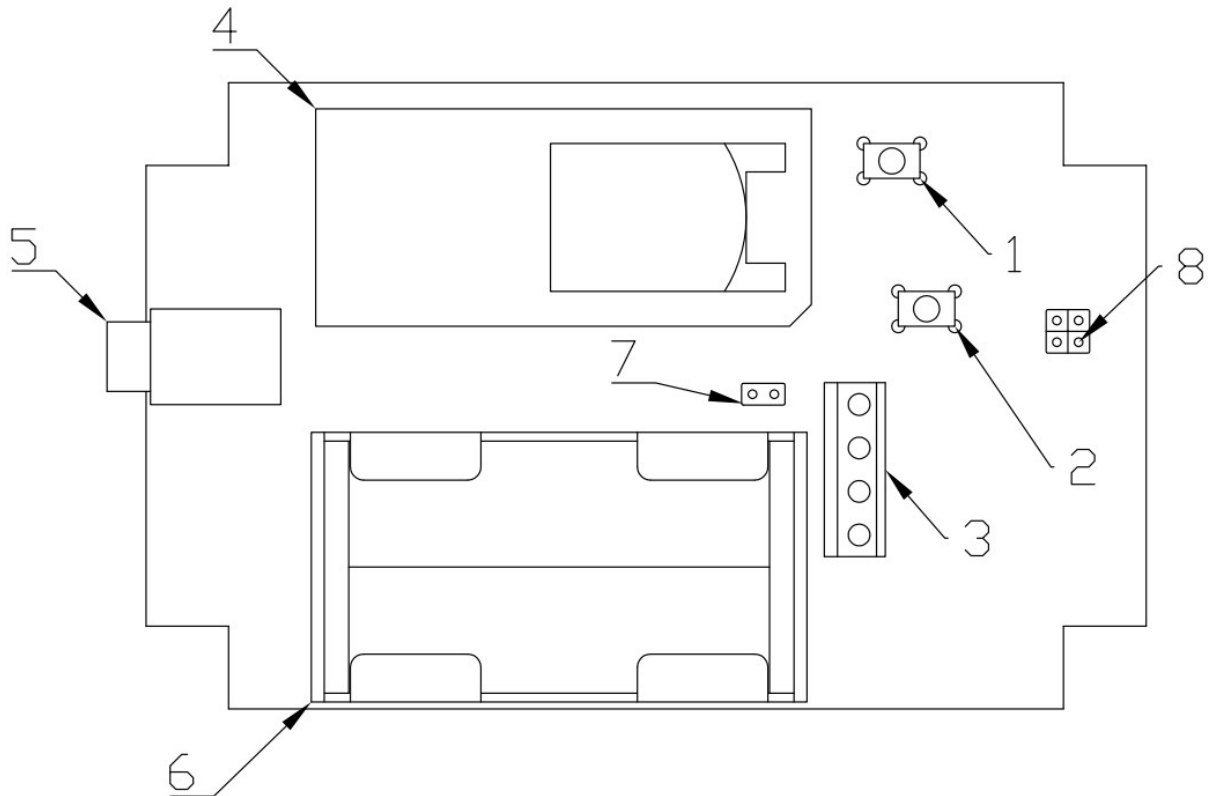
1. Reset Switch
Pressing the reset switch will reset the unit, prompting it to attempt to reconnect to the mobile network.

2. Test Switch
Once the unit is successfully connected to a network pressing this switch will send an alert message to any phones registered to the unit.

3. Auxiliary input
Triggering an auxiliary input will send a message to all registered numbers stating which input has been triggered. This can be connected to external sensors such as a door switch.
To trigger this input connect a wire link between – to the other – and use a normal open switch between + to the other +. When the switch is closed the unit will send a text to the phone numbers, and a restore text when the switch is re-opened.

4. SIM Card unit
Assert that both the power and the batteries are disconnected before inserting or removing a SIM card.

5. Power Supply Connection
Connection for a 9v DC power supply unit.

6. Rechargeable Batteries
Note that these are 3.7v DC batteries, which power the unit when the mains has been disconnected. When storing the unit for long periods of time, or inserting or removing the SIM card these batteries should be disconnected.

7. Hard Reset
Shorting these pins for a brief duration (indicated by the flashing red/green LED) wipes all stored numbers from the memory and returns the unit to factory conditions.

8. Expansion socket.
Allows connection of external equipment to be monitored. For further information please contact us.