Choosing a power supply

Current rating

The rating of the power supply must be suited to the load. The specification tables for all Paxton products are available on the website:
http://www.paxton-access.co.uk/

The minimum power supply rating is equal to the sum of all loads plus 10% (safety factor).

Battery backup

The time that the Net2 system will continue to operate when the mains supply fails is dependent on the current consumption of the system and the battery backup in the power supplies.

$$\text{Backup time (hours)} = \frac{\text{Amp hour of backup batteries (Amp hours)}}{\text{Current consumption of system (Amps)}}$$

Power supplies vary in the features they offer relating to battery backup. A few considerations are:

- Deep discharge - When a backup battery is drained too much it can reach a state whereby it cannot be recharged. This is deep discharge. Some power supplies have the ability to prevent this happening.
- Recharge limit - Some power supplies limit the current consumption of a battery whilst it is recharging. If a power supply does not do this then the system may not be immediately operational when mains power is resumed, i.e. the power will be consumed by the battery recharge.
- Battery capacity - the size of the enclosure will limit the amount/size of the backup batteries.

PSU ripple

Not all DC power supplies are smooth. The ripple is the amount that the voltage fluctuates. The ripple of a supply can be measured by setting a multimeter to measure AC voltage. If the AC voltage across the power terminals is greater than 2V, then it is not suitable for use with Net2.

PSU ripple should be measured under full load conditions.

Size of enclosure

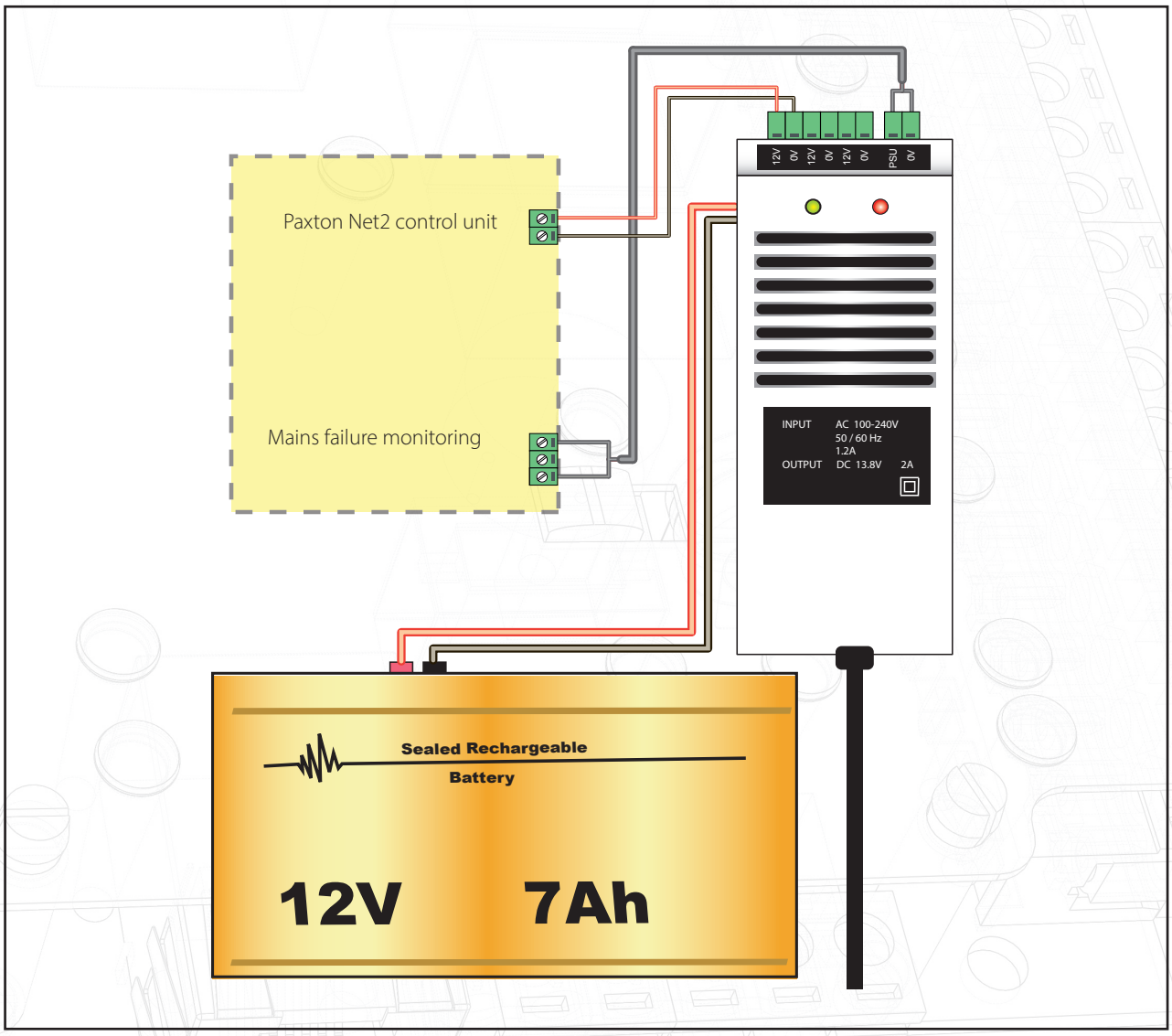
If the ACU is to be mounted in the power supply enclosure then there must be sufficient space. An enclosure of 350x350 mm or larger is recommended.

Alarms

The Net2 ACU can report PSU enclosure tampering and mains failure in the Event log and also sound a local alarm. If these features are required, the power supply must have voltage free contact outputs for tamper and/or mains fail.

The Net2 plastic enclosure has a tamper switch fitted. Where there is a separate PSU and enclosure, the tamper switches can be wired in series.

PSU



This ACU has an input for mains monitoring. This also requires the power supply to have a mains fail 'voltage free' relay output. The ACU will then report a mains fail alarm if this input changes state.

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