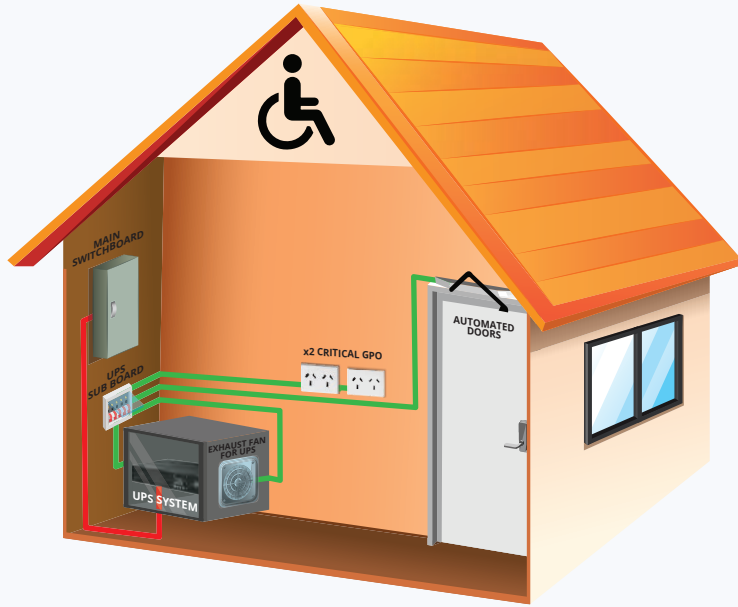


## SDA UPS WIRING EXAMPLE



UPS Solutions work closely with local government agencies, industry experts and SDA providers across Australia, partnering with industry experts who offer innovative products and services to provide best in class solutions.



### About UPS Solutions

UPS Solutions drafted this blog on behalf of SDA Consulting and are a government accredited specialist provider of UPS systems and UPS field services across Australia. They have extensive experience with over 18 years servicing the Australian market.

To discuss your project and request a quote for a new UPS, we can be contacted on 1300 555 992 or send an email through to [sales@upss.com.au](mailto:sales@upss.com.au).

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## SDA 2-HOUR EMERGENCY UPS BACKUP



**XRT6 6KVA ONLINE SERIES BY UPS SOLUTIONS**  
10 YEAR DESIGN LIFE BATTERIES

# 2-HOUR BACKUP UPS REQUIREMENTS EXPLAINED



## DESIGN SPECIFICATION

The SDA standard below requires 2-hour emergency backup in the event of a power outage for 2x GPO points in the participants bedroom and any automated doors for entry or egress. The most suitable emergency backup device to accommodate the requirements is a UPS system.

### 22. EMERGENCY POWER SOLUTIONS

CLAUSE	DESIGN REQUIREMENT	RATIONALE	APPLICABLE TO
22.1	Emergency power solutions shall be provided to cater for a minimum 2-hour outage in no less than 2 double GPOs in participant bedrooms and any provided automated doors that are used for entry or egress.	Backup for life support systems if needed by participants.	

## TYPES OF EQUIPMENT THAT MAY REQUIRE REDUNDANT POWER

- Ventilator
- Ceiling hoist
- Emergency notification alarm
- Electric bed controls
- Alternating air mattress
- CPAP device
- Door controllers
- Suctioning equipment
- Small fridge for medication
- Communication devices

Air-conditioning is typically not factored into the design load, however, the two-hour capacity provides a participant who is reliant on heating and cooling enough time for support services to organise transportation to a hospital.



UPS SOLUTIONS	VOLTAGE PHENOMENON	TIME	E.G.	IEC 62040-3	UPS SOLUTION
1	OUTAGE - BLACKOUTS	> 10 ms		VFD Voltage + Frequency Dependant	Classification 3 OFFLINE Protects against 3 of the most common power issues
2	SAGS / BROWNOUTS	< 16 ms			
3	DYNAMIC UNDERVOLTAGE	< 16 ms			
4	UNDERVOLTAGE	Continuous		VI Voltage Independent	Classification 2 LINE / INTERACTIVE Protects against 5 of the most common power issues
5	OVERVOLTAGE	Continuous			
6	LIGHTNING	Sporadic		VFI Voltage + Frequency Independent	Classification 1 (TRUE) ONLINE REAL DOUBLE CONVERSION Protects against all 10 of the most common power issues
7	TRANSIENTS (SURGE)	< 4 ms			
8	FREQUENCY VARIATIONS	Sporadic			
9	VOLTAGE DISTORTION Hf (Burst)	Periodically			
10	VOLTAGE HARMONICS	Continuous			

**IT IS HIGHLY RECOMMENDED TO CHOOSE AN ON-LINE UPS SYSTEM TO PROTECT AGAINST ALL MAIN POWER ISSUES.**

## PICKING THE RIGHT SIZE OF THE UPS SYSTEM?

There are two considerations, first is the UPS rating which goes by KVA/KW and is the total power load the UPS can handle from connected devices at any given time. Then we have the UPS runtime, which is the battery amount and type required to provide 2-hour backup time for the UPS load in a power outage.

## WHAT KW (KILOWATT) LOAD SHOULD BE ALLOWED FOR?

As a rule of thumb, allow for the load of 1.5kW per participant which is based on experience. However, the actual load per participant requires must be confirmed once they move in and all equipment can be tested.

Because determining that required load is not an exact science prior to a participant moving in, it is recommended the UPS system that is installed can be easily upgraded to a higher capacity if needed by adding extra batteries. Additionally, the cupboard that the UPS is being installed into should have the capacity to include space for the additional batteries and allow for the additional ventilation that will be required. This will need to be confirmed by the UPS provider.

## UPS Rating Considerations:

- Total load from equipment being placed on UPS
- Automatic doors
- In-rush currents
- Potential misuse, people plugging items such as vacuums, hairdryers etc that may trip the UPS circuit

