ST HELENS

CARAVANS, PODS & CAMPING

USING YOUR NEW MAINS ELECTRICITY METERED HOOK UP AT ST HELENS

When you connect to your metered hook-up point you are able to receive an electricity supply as you would at home.

This will be a nominal 230V, single phase, 50Hz supply, which is compatible with UK and modern European caravans, motorhomes, trailer tents and folding campers.

This electrical supply can be used either directly to power 230V equipment or indirectly via a power supply unit that converts the mains power at 230V AC to a nominal 12V DC, usually in conjunction with a leisurebattery. This guide looks at how to use this electricity supply safely and discusses its limitations.

Safety is paramount

Remember that using a 230V electricity supply within caravans, motorhomes and tents requires even more care than in the home. Because your unit is mobile there is a greater likelihood of things going wrong with an electrical installation than with the fixed installation within your house. It is therefore important you make sure your cables and equipment are maintained in good condition by simple checks every time you use it.

The Dawnay Estates and St Helens management team are responsible for the safety of the electrical supply equipment up to the socket outlet on the site bollard where you connect your hook-up cable. You are then responsible for the safety of the hook-up cable and your unit's electrical installation. However, the Site Managers have an overall responsibility for the safety of all campers while on their site, so if the Site Manager notes any electrical equipment not conforming to the sites recommendations or connected to the electrical supply in an unsafe manner he or she is empowered to disconnect that unit.

Your Metered hook-up

All our pitches have an electrical supply bollard on, or very close, to your pitch. Each hook-up bollard is individually protected against overload by a miniature circuit breaker (MCB) and a residual current device (RCD).

The MCB is a device to protect the site cabling from overloading and limits the amount of current you can draw from the supply. All our hook-ups at St Helens have a maximum rating of16A and this will limit the number of appliances you can use at one time (see the How much power section). The RCD is designed to cut off the supply if a fault occurs in your connecting lead, caravan or other camping unit. However, to maximise safety your unit should have its own RCD. Do not allow children to play around the hook-up installation or supply cable or allow them to connect or disconnect supplies.

Your supply cable plug is simply a push fit into the bollard socket. More information on how to use the meter is below. But firstly, some safety information!

Your supply cable

The socket outlet of the site hook-up points complies with the British Standard BS EN 60309–2. Your connecting lead will need a plug to match this socket outlet and a connector to match the inlet to your unit, both complying with BS EN 60309–2. Such leads now come supplied with new caravans and motorhomes constructed under the National Caravan Council (NCC) approval scheme, but suitable leads fitted with the appropriate blue plug and socket are available from most camping or caravan dealers, these connecting leads must be PVC/PVC flexible cable, with three cores, each core being 2.5mm sq cross sectional area (CSA) to be able to cope with a typical 16A connection demand.

It is common however to find lesser cables where each core is only 1.5mm sq CSA. This can be confirmed on the outer PVC covering of the cable where it should be marked. Whichever type of cable you use we highly recommend you fully unwind it to allow any normal heat build up to dissipate and avoid overheating of the cable and possible damage.

Your supply cable

The connection between the two cables should be raised off the ground by the use of a propriety joining cover. Taped cable joints and ordinary 13A household plugs and sockets must not be used under any circumstances. The cable is normally coloured orange so that it is visible and avoids being damaged by grass cutting and other activities on site.

Although the electrical standards require a 25m cable with a CSA of 2.5mm sq these are rarely available for sale so if you must get a 1.5mm sq CSA with only 15m of cable consider the following:

- Have an additional cable for pitches more than 15m apart (see note above)
- Get a waterproof connector to join these two cables together safely
- Fully unwind cable from storage reel before use
- Reduce power consumption as the 1.5mm sq CSA cable is not as capable of sustaining maximum electrical power usage on a caravan or motorhome without the cable overheating
- Always make sure it has RCD and MCB protection as a minimum

Connecting up

When you are ready to connect to your hook-up, make sure the RCD in your van and on the bollard is in the off position and then connect your hook-up to your caravan. Only then should you connect to the campsite metered outlet. It is good practice to check the operation of the safety RCD device before turning on your appliances by switching on the RCD and pressing the test button. If it fails to operate the system will need to be checked by a suitably qualified person. As an extra check you can plug a proprietary mains tester into a socket to check the polarity of the supply and the presence of an earth connection.

Disconnecting

When you are ready to leave, switch off the RCD in your caravan. Disconnect the cable from the hook-up outlet socket on the bollard and the RCD will automatically drop to the off position. Then, remove the cable from your unit.

Loss of supply

At St Helens, any loss of supply should be reported to reception as soon as possible.

IF THE LOSS OF SUPPLY IS BECAUSE YOU HAVE OVERLOADED THE CIRCUIT OR MISUSED YOUR EQUIPMENT THERE MAY BE A £40 CHARGE FOR RESTORING YOUR ELECTRICITY SUPPLY.

Please do not ask site staff to attend to hook-ups before 9am or after 8pm unless it is an emergency.

How much power?

At St Helens, we provide a 16A electrical supply. In comparison, a modern domestic kitchen typically has a power supply of 20A, plus a separate electric cooker supply and a lighting supply. Hence, when using your caravan, to keep within the limits of the campsite supply and prevent a loss of supply if a circuit breaker trips, you need to be careful about the appliances you use and how many you use at one time.

How much power?

You need to ensure the total rated wattage (rated power) of equipment switched on at any one time is less than the power supplied to you. Particularly beware of using ordinary domestic kettles that can draw 10A or more on their own. Special low wattage kettles and other equipment are available from camping and caravan dealers. Microwave ovens can also present problems – even though they may be advertised as (for example) 800W, the input operating power requirement, particularly on start-up, may be up to twice this.

Even though you may have a 16A hook-up, the power sockets in your caravan or motorhome may be protected by a circuit breaker of just 10A. Usually there is another one or more circuits rated at perhaps 6A or 10A, which covers the lighting circuit and possibly some other built-in electrical equipment. If in doubt consult your handbook or contact your dealer.

The electrical supply at St Helens is designed on the basis of diversity so the main site supply is geared up to an average electrical usage, not all hook-ups taking 16A at one time. Just occasionally, if a cold spell occurs at times of high occupancy and all users switch on electrical heaters and kettles at the same time, you may suffer reduced power or even a power cut, so it is important to use electricity responsibly.

Electrical consumption table

This table shows how many watts (W) and amps (A) normal appliances may require. It is only a guide and the power ratings marked on your appliances should be used wherever possible.

Appliance	Power (W)	Current (A)
Domestic kettle	2,000	8.7
High-speed kettle	3,000	13.0
Iron	1,300	5.6
Camping kettle	750	3.3
Microwave oven 800W cooking power	1,000	4.4
Domestic fan heater 1kW	1,000	4.4
Domestic fan heater 2kW	2,000	8.7
Truma water heater	850	3.7
Truma water heater	1,300	5.6
Camping fan heater	750	3.3
LCD TV	45	0.2
Refrigerator	135	0.6
Battery charger	100	0.4
Battery charger	300	1.3
Hair dryer	600	2.6
Hair dryer	1500	5.2
Toaster	900	3.9

Electricity in awnings

UK wiring regulations require special measures if electricity is to be used in outdoor locations and as conditions in awnings can often be damp and affected by condensation, it is only sensible to take special measures in these situations.

The important thing to remember is that water and electricity do not mix. Even small amounts of water or condensation in conjunction with an electrical supply will result in a risk of nuisance tripping, fire or electrocution. Keep all electrical equipment off the ground and be prepared to stop using electricity when conditions are damp. Use electricity only when someone is present and unplug appliances and replace the covers over the socket outlets when you leave the tent.

Because of these special conditions it is essential to use a proprietary electric hook-up device, manufactured specifically for awning hook-ups. These devices have one, two or three domestic-style three-pin socket outlets and a control box with safety features incorporating miniature circuit breakers (MCBs) and a residual circuit breaker (RCD). Do not forget to test the RCD each time you connect up. Its worth noting the cable will likely be the lower grade 1.5mm sq CSA and only be 15m long so consideration should be made for electrical power consumption. Always unwind the cable fully before use.

REMEMBER ALSO THAT MOST APPLIANCES YOU USE WILL HAVE BEEN DESIGNED FOR THE DOMESTIC ENVIRONMENT AND MAY THEREFORE BE VULNERABLE TO CONDENSATION.

Maintenance

Most new caravans and motorhomes will carry a three-year National Caravan Council approval certificate covering the electrical installation. However, some older or imported caravans will not carry any kind of certification. St Helens strongly recommends you have these units checked and all mains electricity installations should be inspected regularly by a qualified electrical technician.
The Electrical Safety Council recommends caravans should undergo testing with an Electrical Installation Condition Report (EICR) at least once every three years. Approved Workshops are qualified to undertake this check, but if your caravan or motorhome dealer does not have a suitably qualified person to provide a EICR then contact either the National Inspection Council for Electrical Installation Contracting or the Electrical Safety Council for a list of suitable personnel in your area.

12V Supply

Most caravans and motorhomes have a 12V supply from a leisure battery or a supply unit that converts a supply to a nominal 12V. While 12V provides a voltage that should not cause a fatality from an electric shock it still has the potential to cause harm. The main hazard is from overloading supply cables. This causes heat to be generated and could lead to a fire. Always check the power rating of any equipment to be connected to a 12V socket for compatibility and consult your dealer before altering 12V wiring circuits unless you are competent to do so.

Invertors

When you do not have access to a 230V mains hook-up you can use an invertor to provide a 230V supply from your 12V battery.

However, a 230V mains appliance taking a 1A supply from an invertor will require 20A from the battery, which can cause the battery to discharge rapidly and overload the 12V wiring system. It is also important to remember to take the same safety precautions with a 230V supply from an invertor as with a normal 230V mains supply.

Generators

GENERATORS ARE NOT PERMITTED UNDER ANY CIRCUMSTANCES AT ST HELENS

Electrical Hook-ups FAQ

At St Helens, we have seen an increase in cases recently where the plug will not remove from the socket and a lack of knowledge as to why this has happened.

Upon research and advice from our electricians, if a plug does not remove from the socket, it is almost certainly down to 2 main factors:

LOOSE CONNECTIONS OR OVERLOAD
As every pitch has now had a brand-new socket fitted and tested, it is important for us to ensure this does not occur, and if it does, the reasons why.

MELTED 16A BLUE PLUG / SOCKET
It's almost certainly down to a poor connection between the plug pins and the socket contacts, or poor wire connection inside the plug, possibly but not always combined with a high current being drawn.

PLUG WON'T COME OUT OF SOCKET
The connections inside the plug and socket have fused together. Ensure your plug is fully pushed into the socket – if not this causes arcing which in turn produces heat causing the plug and socket to melt together.

LOSS OF POWER SUPPLY
Loose connections or overload. 9 times out of ten, the issue with loss of power has been caused by overloading the circuit. This has either blown the RCD in your van, or on your meter bollard.

Safe use, Maintenance & Cable safety

Take a look at our top tips for keeping your electrical system (and ours!) safe and in good condition:

•The caravan mains electrical system should be checked regularly - annually is preferred.

•Keep your equipment in good order and have appliances serviced as recommended by the manufacturer.

•Damaged or worn cables should be replaced immediately. Do not leave your cable under you van – this leaves the plug exposed to the elements meaning the metal and plastic components become corroded and warped. Then what happens is that the plug pin will not make proper contact with the socket. This then causes arcing which in turn produces heat causing the distortion. If left unattended could cause a fire.

•Do not abuse appliances by forcing them to perform more than their capability.

•Switch off ALL internal appliances before connecting to or disconnecting from site supply.

•Check operation of RCD (residual current device) using the test button every time caravan is connected to a site supply (NOTE: Supply must be switched on at site socket outlet).

Safe use, Maintenance & Cable safety

•In the event of a blown fuse or MCB (miniature circuit breaker) trip, switch off the supply and find the cause before replacing the fuse or resetting MCB.

•If an appliance malfunctions, switch off supply before removing the appliance for inspection.

•Ensure your plug is fully pushed into the socket. Again, if the plug is not correctly pushed in, this causes arcing which in turn produces heat causing the plug and socket to melt.

•Clean your plug – using a simple silicone lubricant can help ensure the pins in your plug remain clean and protected.

•Replace the plug annually. It is a good idea to replace your 16a plug every year. They are relatively cheap compared to a charge for a replacement socket!

•Ensure you are aware of how much power you are drawing. Modern caravans use more electrical power than older models. Combined with domestic heater / oven / the kettle, / hair dryer etc you are more than likely drawing more than 16A, meaning heat will be produced.

•Remove and replace your plug regularly. It is a good idea if you are staying on site for more than a few days to unplug from the socket and check for heat or corrosion every few days. This will play a huge part in avoiding any power loss.

How to use your Alpha RFID Pre-Payment Metering System Top-up & Refund

- To energise the socket outlet insert your caravan supply plug and switch the RCBO under the reset flap to the 'on' position (up).

- Hold the card against the meter until it beeps. The credit will then be displayed on the meter screen.

- To refund the credit back on to the card, follow the same procedure. Hold the card against the meter until you hear a beep, the credit amount should now display as £0.00.

- Return the card to the reception where the credit balance can be read in the software.