Solar Smart

Patent Pending

Plug ‘n’ Play Solar

Every roof is a renewable opportunity.

Auto-switch with the local power supply for maximum efficiency.

AJC EasyCabin

Sustainable power is easy.

DESIGNED & BUILT IN THE UK

A unique plug ‘n’ play solar system designed to be added to any flat surface.

- ✓ Reduce fuel costs
- ✓ Reduce harmful emissions
- ✕ No complicated electrical installation

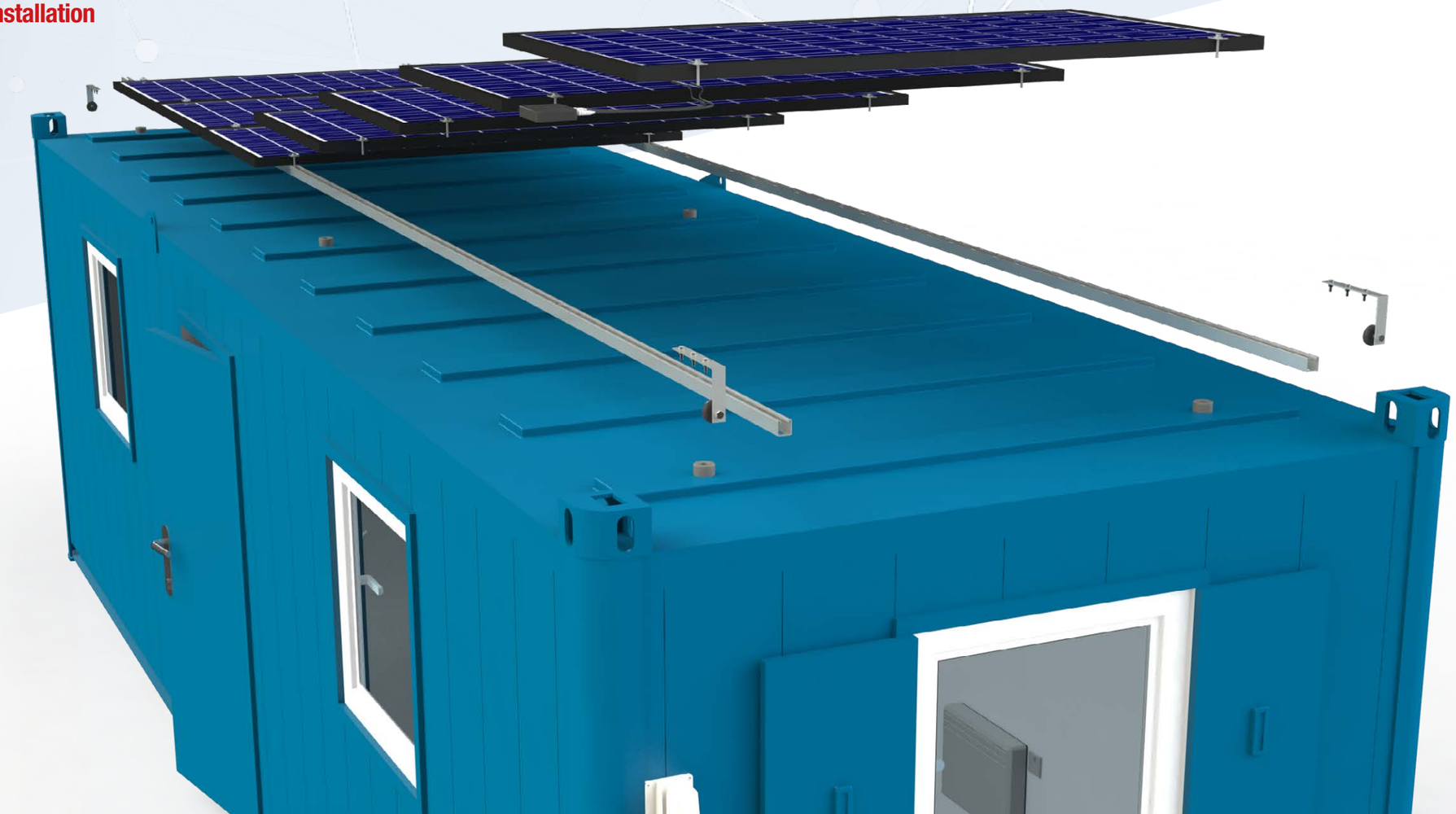
Integrate solar power, without any hassle.
No problem.

Solar Smart is a “Patent Pending” system that is transforming how solar power is integrated into existing power supplies. Solar Smart will reduce your fuel costs and harmful emissions, without the large upfront costs of traditional solar installations.

Transform the energy input into your buildings, cabins, outdoor stages or any flat surface where power is needed. Power is transformed from DC to AC current inside our system.

Solar Smart by AJC EasyCabin opens the door to solar power on temporary sites. The system has been designed from the ground up to be plugged directly into an existing power supply. The special Solar Smart box auto-switches power between the local power supply and solar panels depending on demand.

Further energy can be harvested when used with an EasyCabin Solar Pod, all access solar power is channelled into large batteries for use over night.



Plug & Play
Modular, expandable power supply

Large solar modular system

Connect to local power

Ecosmart technology
Intelligent, efficient power management

Every roof is a renewable opportunity

Solar Smart

Solar Smart allows many varied buildings and structures to be integrated into a single installation.

Solar Smart is perfect for remote site setups or buildings not on the grid that have a generator power backup.

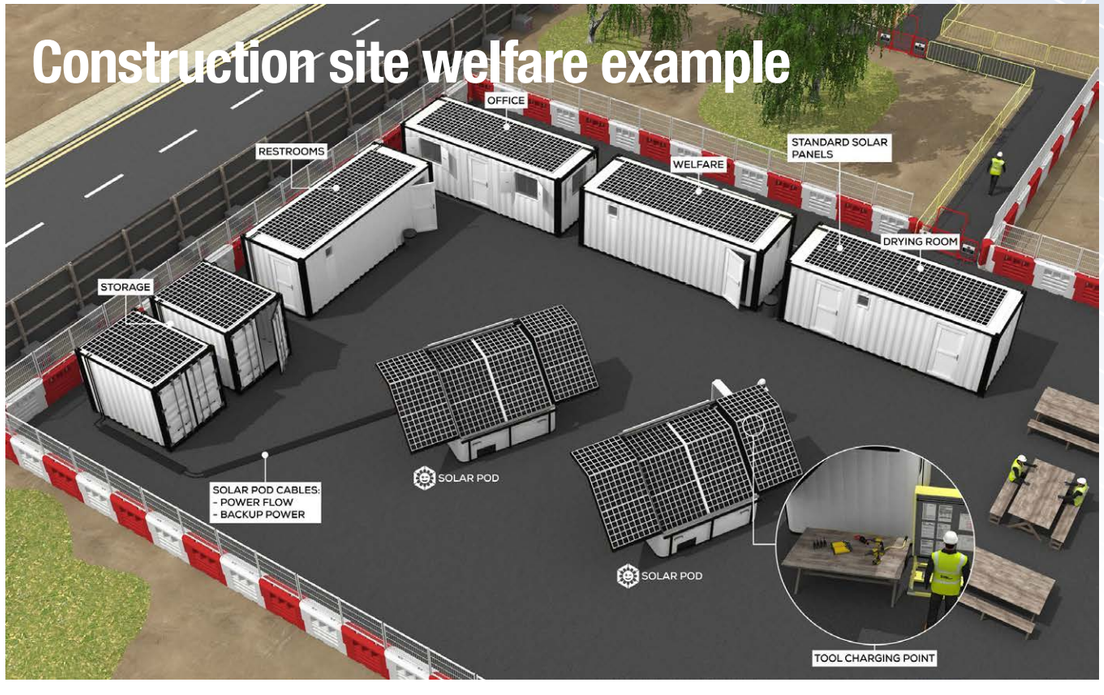
Up to 12 panels per Solar Smart Box, panels can be daisy-chained with long connections that span different structures with all power flowing into 1 Smart box and into the local power installation.

Here are just a few examples of what kind of units can really benefit from SolarSmart.

Solar Smart works together seamlessly with the EasyCabin SolarPod. Further increasing power input and storage capacity.

Solar Smart can also work with other 3rd party battery storage systems working at a specified voltage/current.

Add further solar panels when you have ran out of roof space with our Solar Smart frame system. This allows more panels to be positioned nearby your unit, on the ground.




Container homes


Outdoor catering

Construction sites

Factories & warehousing


Detached garages


Festivals


Container conversions

EV charging

Kiosks

Park homes

Grounds keeping

School outbuildings

Temporary offices

Solar Smart
inside
Patent Pending

More Energy

Pre-installed with micro inverter, individually optimises modules and maximises power deployment

All-in-one

Integrated with micro inverter, delivers high performance and saves space

Easy installation

Significantly reduced installation & configuration time. Decreased costs and up-front investment

On-board solar panel DC-to-AC conversion
= No hard-wiring, No big boxes

We have built the Solar Smart system to integrate with standard power systems with ease.

On normal traditional solar installations, all power conversion is done using large inverters, battery packs, charge controllers, regulators, power meters, and all the associated wiring that goes with joining all this together.

Traditional installations are complex and require significant man hours and upfront investment to install.

The on-board capability of DC-to-AC conversion combined with the Solar Smart Box power management make this a one-of-a-kind product. (patent pending)

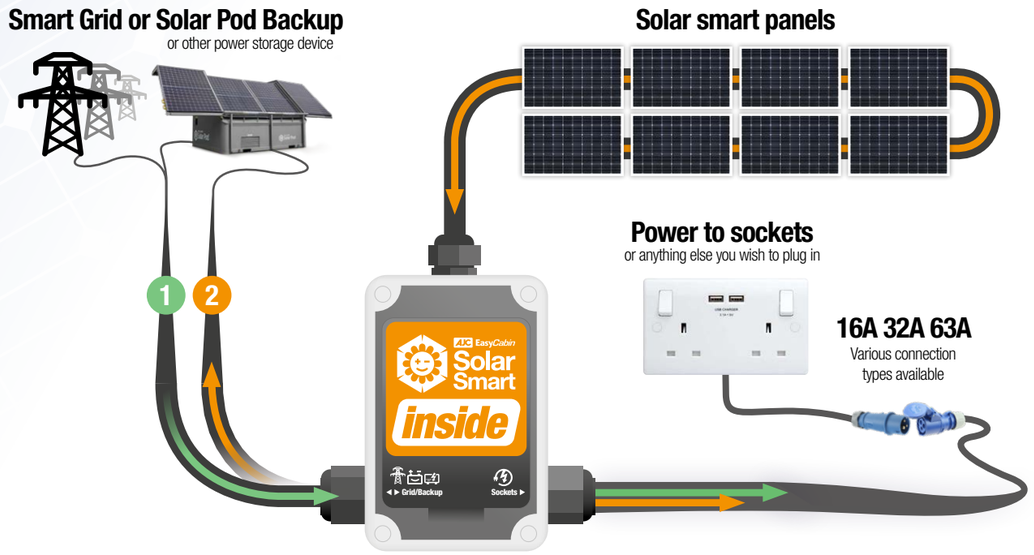
Auto-switching power management
= High efficiency

Solar Smart panels are highly efficient and capable of up to 400W AC power input per panel. Power is fed from the solar panels direct to the Solar Smart Box and depending on the load detected, routes it to where it's needed.

If no power is used within the cabin or building, all power is switched and diverted to any back-up storage that is connected (Solar Pod or battery bank).

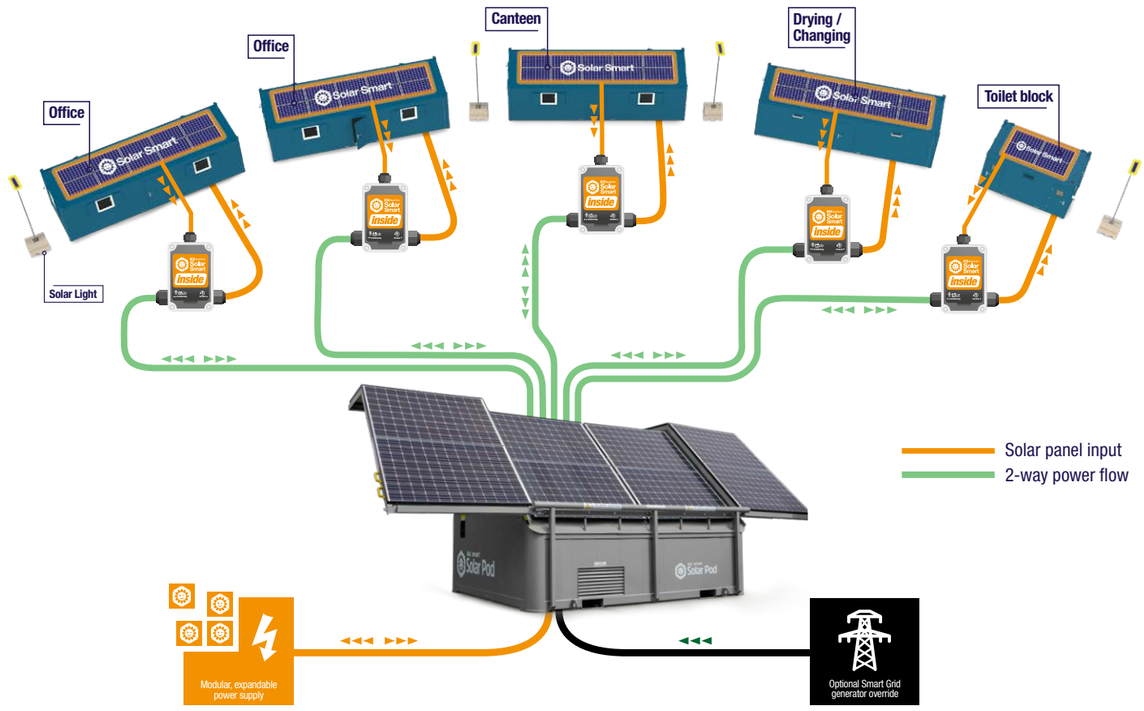
When power inside the cabin exceeds the solar input then power mixed in to cope with demand from an external power source. (Local grid, Solar Pod, or battery bank).

The Solar Smart Box will ensure that solar power has priority at all times, switching to other sources connected only when necessary. This will save fuel & energy costs and keep power for other high demand items on the local power grid.



1 High demand
Incoming solar & other power combines to meet demand.

2 Power Harvesting
Low demand & high solar input. Spare solar power diverted to battery storage.



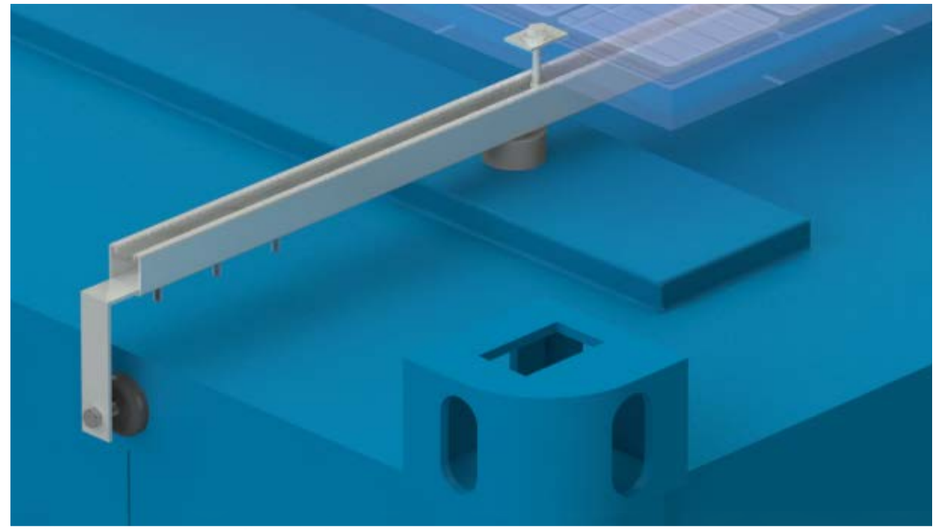
Non invasive modular fixings

We have designed a frame system to mount the panels securely in place on your flat roofs.

The frame is designed so that no drilling or direct fixing is needed. The frame is mounted in-place like a car roof-rack only using friction mounting points.

Further secure points are also integrated for bungees and ratchet straps hold everything in place.

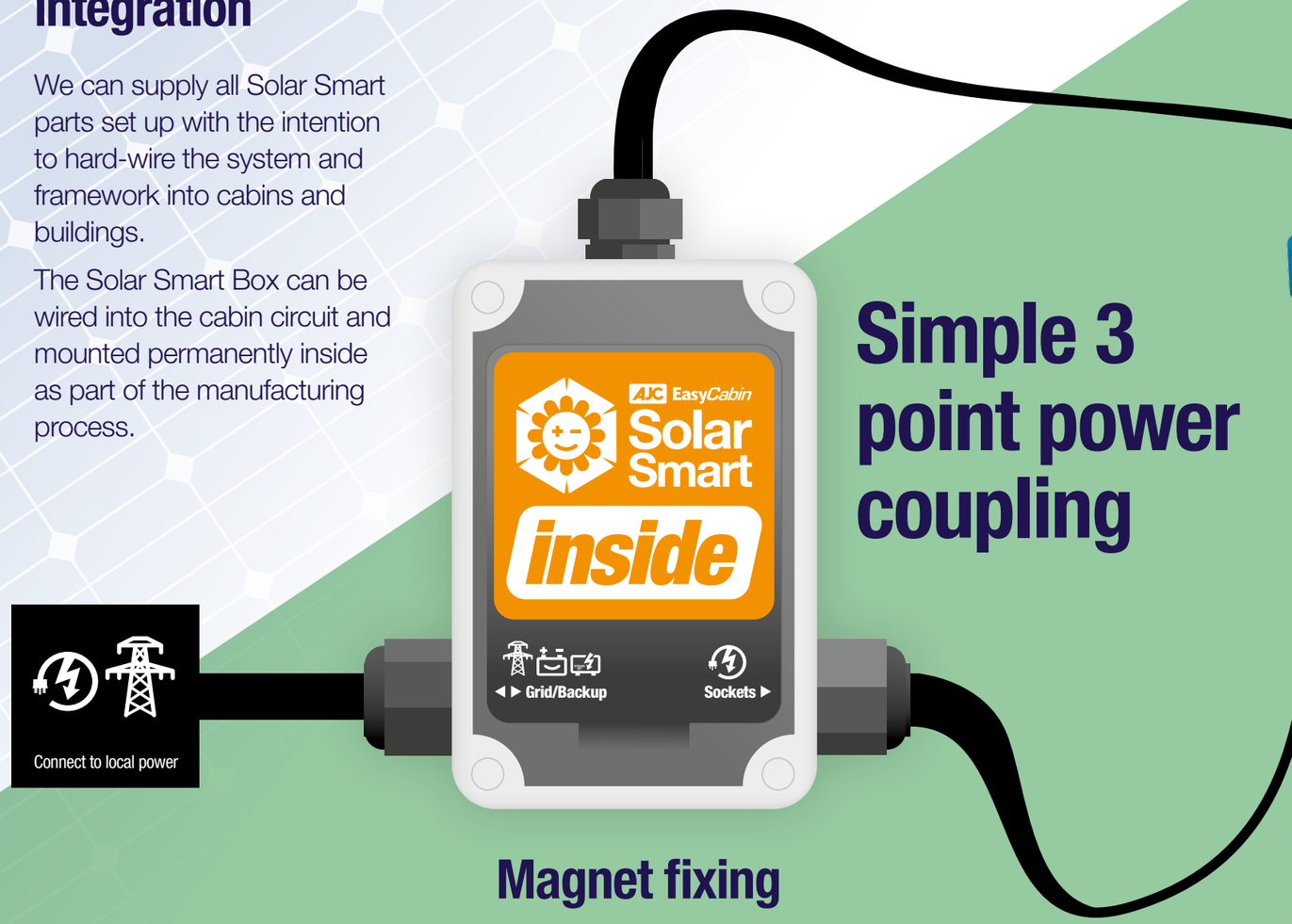
Solar Smart boxes have a strong magnet fixing so they can be mounted directly to the outside of the cabin.



Optional permanent integration

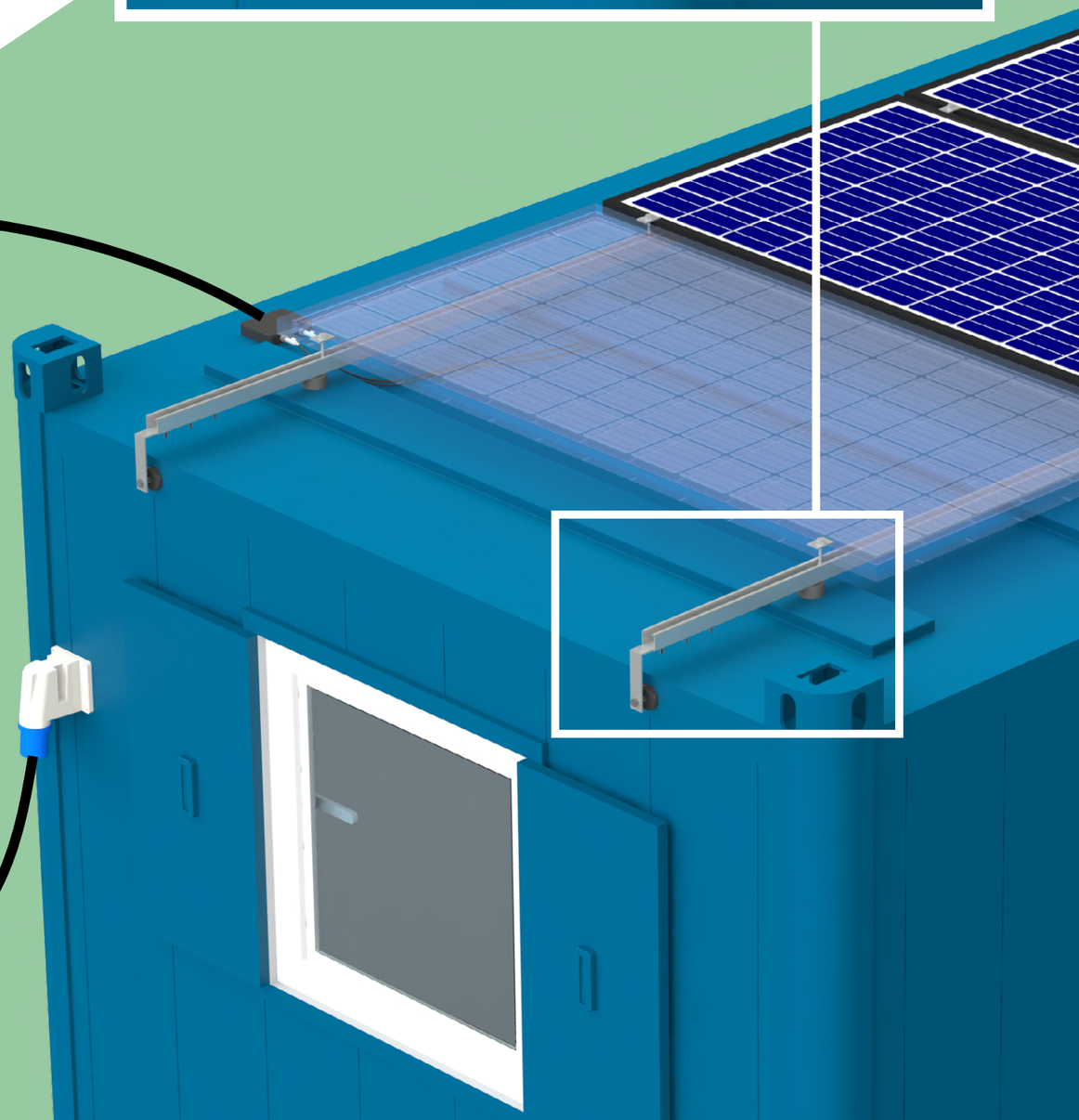
We can supply all Solar Smart parts set up with the intention to hard-wire the system and framework into cabins and buildings.

The Solar Smart Box can be wired into the cabin circuit and mounted permanently inside as part of the manufacturing process.



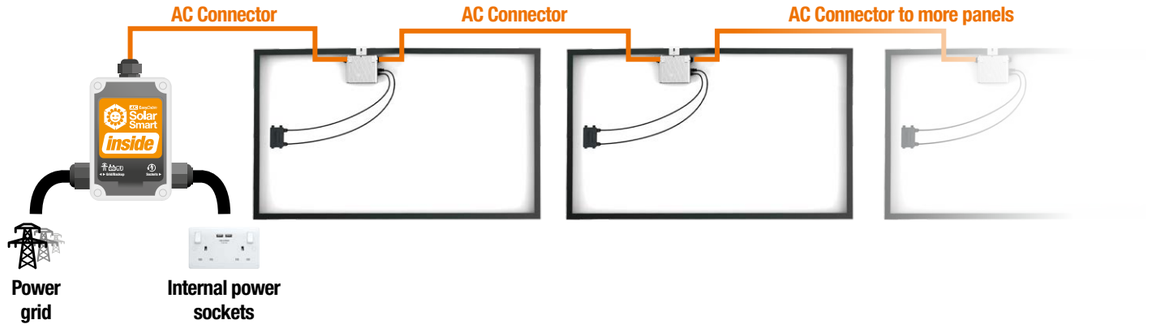
Simple 3 point power coupling

Magnet fixing



System connections

How each installation is connected to the host



Panel technical data

We have 3 solar panel models with varied power input

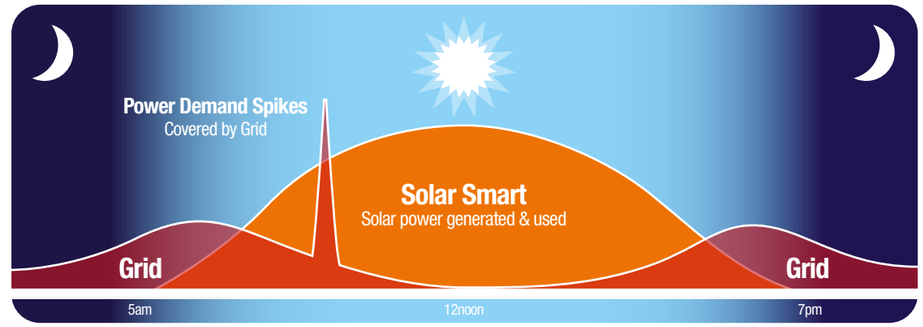
		SSP 300W	SSP 350W	SSP 400W
DC POWER DATA	Standard Panel DC power	275W (optional up to 320W)	300W (optional up to 370W)	360W (optional up to 420W)
	Module Efficiency	16.80%	18.94%	19.00%
	Power tolerance	+3%	+3%	+3%
	Temp. Coef. (Power)	-0.40% / ˚C	-0.39% / ˚C	-0.39% / ˚C
AC ELECTRICAL DATA	Max. Continuous Output Power (W)	270	300	350
	Max. Output Current (A)	1.17	1.45	1.59
	Nominal Output Voltage (V)	220 / 230 / 240		
	Nominal Frequency (Hz)	50 / 60		
	Power Factor	> 0.99		
	Output Current Harmonic Distortion	<3%		
	Maximum Units Per 20A Branch	14	12	12
CERTIFICA-TION	Solar Module	CE, TUV, UL, CEC, JET, IEC 61215, IEC 61730, UL 1703		
	Micro Inverter	CE-LVD, CE-EMC, VDE 4105, VDE 0126, EN 50549		
ENVIRONMENT	Environmental Protection Rating	IP67		
	Operation Ambient Temperature Range	-40% ˚C to -60% ˚C		
	Relative Humidity	0-100%		
	Max. Operating Altitude without de-rating (m)	2000		
MECHANICAL	Weight (Kg)	20		24
	Dimensions (WxHxD mm)	1650 x 992 x 50		1960 x 992 x 50
	Packing Configuration	26pcs per pallet / 728 pallets per 40HQ		24pcs per pallet, 576 pallets per 40HQ
	Warranty	12 years		

Power charging scenarios

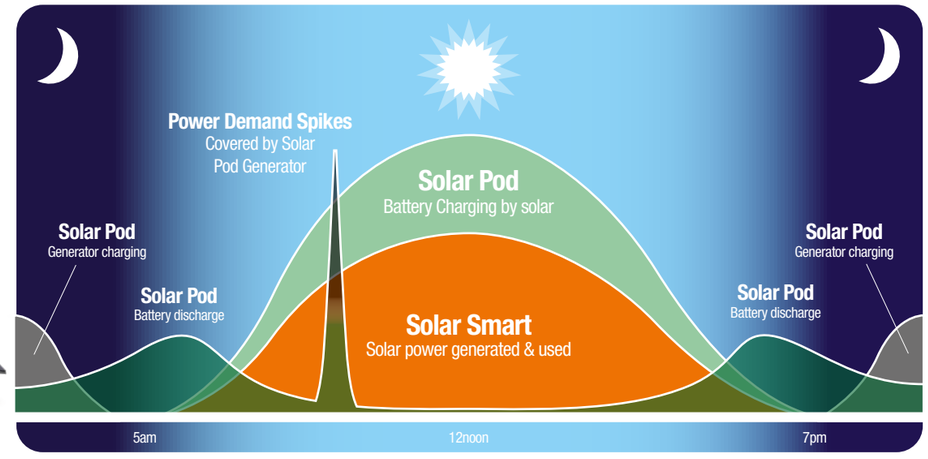
Simple examples of how energy flows over 24 hours

For illustration purposes only

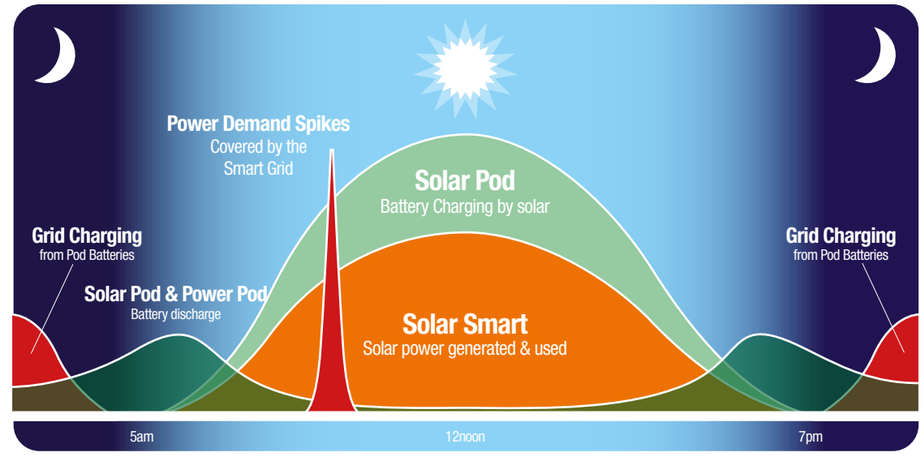
Solar Smart + Smart Grid



Solar Smart + Solar Pod



Solar Smart + Solar Pod + Power Pod + Smart Grid



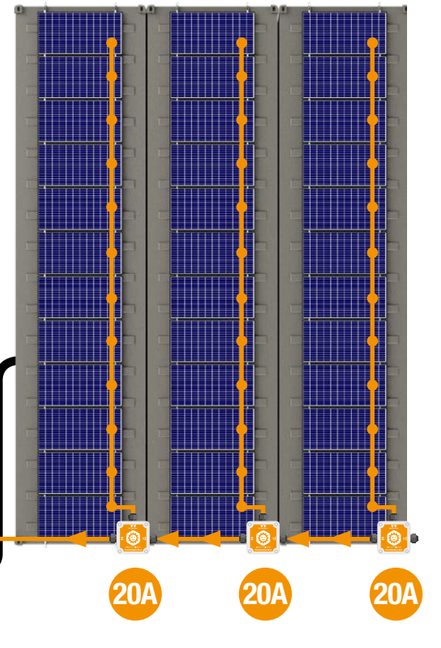
Up to 125Amps per Solar Smart Box with the help of the Combination Box.

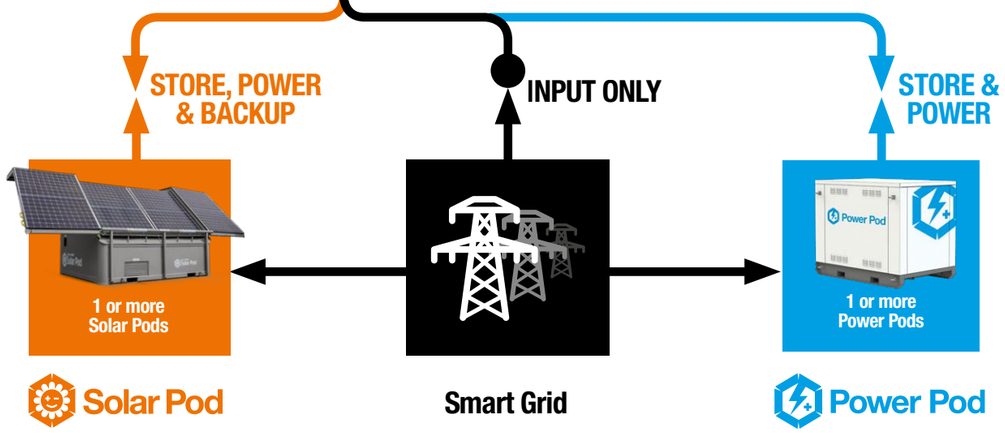
Combine solar panel groups for larger set ups

For larger modular offices or sites with a higher demand, Solar Smart can be configured to use multiple groups of panels in various locations to power one unit.

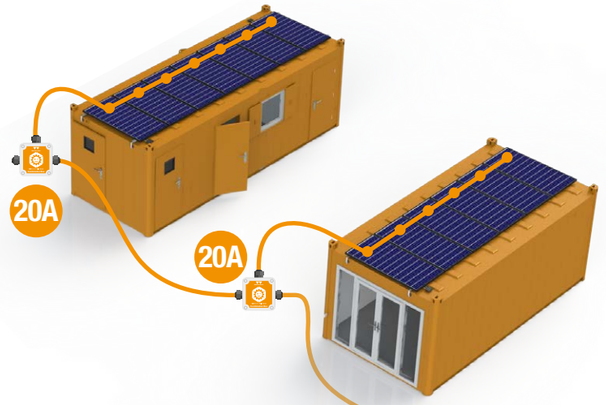
This flexibility can make use of ANY space you have on your site to power a single high demand unit.

Use the multiple locations to harvest & collect the solar power in a Power Pod or Solar Pod.

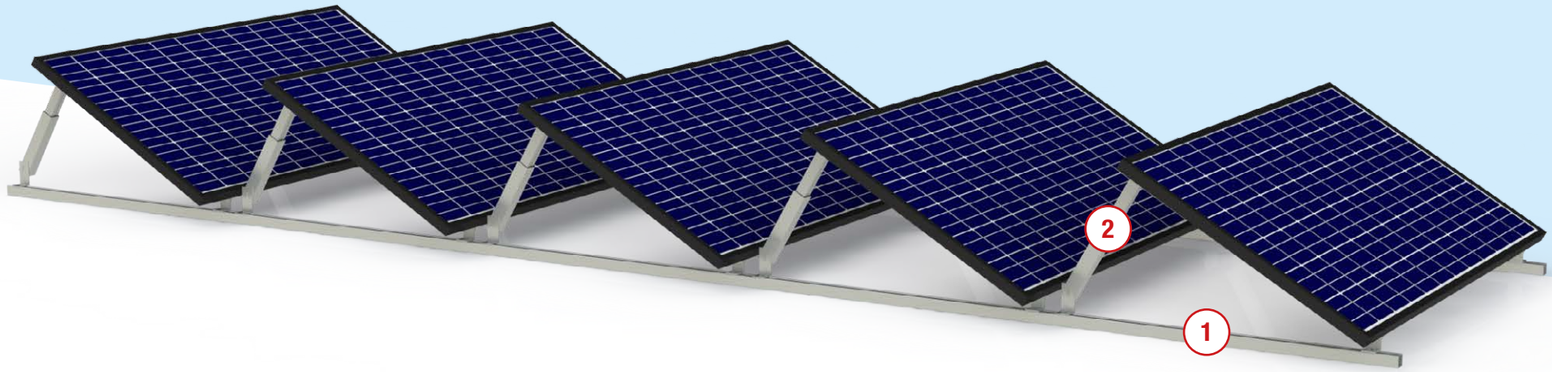




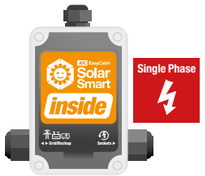
Multiple solar groups for 1 unit



Modular Parts



Solar Smart Box



16A **SSB-1P-16A**
6x panels / 16A max

32A **SSB-1P-32A**
15x panels / 32A max

63A **SSB-1P-63A**
30x panels / 63A max

125A **SSB-1P-125A**
50x panels / 63A max

Supplied with or without plugs

16A **SSB-3P-16A**
6x panels / 16A max

32A **SSB-3P-32A**
15x panels / 32A max

63A **SSB-3P-63A**
30x panels / 63A max

125A **SSB-3P-125A**
50x panels / 63A max

Supplied with or without plugs

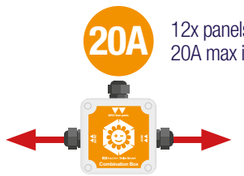
Solar Smart Panels

SSP 300W
1650 x 992 mm
Max units per 20A branch: 14

SSP 350W
1650 x 992 mm
Max units per 20A branch: 12

SSP 400W
1960 x 992 mm
Max units per 20A branch: 12

Combination Box



12x panels max
20A max input

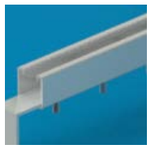
16A **SSCB-16A**
For a 16A throughput

32A **SSCB-32A**
For a 32A Throughput

63A **SSCB-63A**
For a 63A Throughput

125A **SSCB-125A**
For a 125A Throughput

Mount Rails



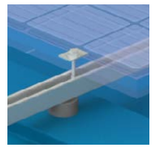
SSR L3000
Length 3m
Single Unit (2x required for each branch)

SSR L6000
Length 6m
Single Unit (2x required for each branch)

2

SSR Tilt Frame
Adjustable tilt angle mount.
For 1x panel

Fastenings



SSF Bolt Clamp
Connect panels to the Mount Rails.
Single Unit (4x required for each panel)

SSF Unit Clamp
Connect Mount Rails to cabin or building
Single Unit (2x required for each Mount Rail)

Cables

SSC Solar-to-solar
Connect panels together
Various lengths available.

SSC Box-to-Solar
Connect a solar panel group to the Solar Box or Combination Box
Various lengths available.

16A **SSCB-16A**
For a 16A throughput

32A **SSCB-32A**
For a 32A Throughput

63A **SSCB-63A**
For a 63A Throughput

125A **SSCB-125A**
For a 125A Throughput

Non invasive modular fixings

The frame is designed so that no drilling or direct fixing is needed. The frame is mounted in-place like a car roof-rack only using friction mounting points.

Further secure points are also integrated for bungees and ratchet straps hold everything in place.

Solar Smart boxes have a strong magnet fixing so they can be mounted directly to the outside of the cabin.

Optional permanent integration

We can supply all Solar Smart parts set up with the intention to hard-wire the system and framework into cabins and buildings.

The Solar Smart Box can be wired into the cabin circuit and mounted permanently inside as part of the cabin/building manufacturing process.

Solar Smart Site

Each component is designed to work alone OR together in ANY combination to save energy.

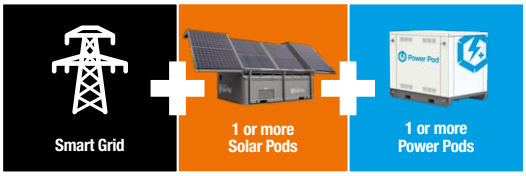
ULTIMATE FLEXIBILITY: Save energy in many combinations

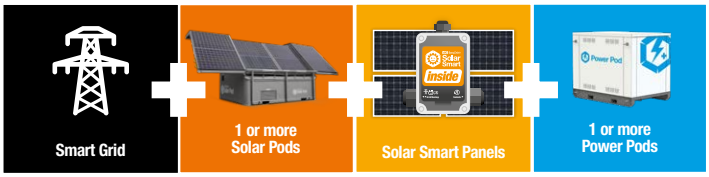
Solar Pod
Hybrid solar generator

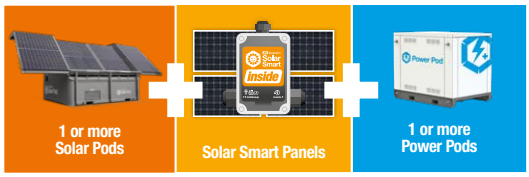
Solar Smart
Plug N play Solar panel kit

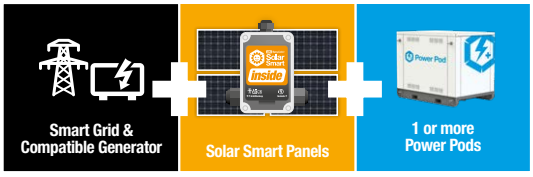
Power Pod
High Capacity Battery Bank

Connect Solar Smart Panels with Power Pods & Solar Pods to save more energy. Power large and small sites.









Download

Solar Smart Site brochure

https://www.easycabin.co.uk/downloads/solar-smart-site.pdf

Award winning welfare Designed & built in the UK

AJC EasyCabin

2017 WINNERS GREEN CHAMPIONS
GREEN WORLD AWARDS WINNERS 2018
2018 WINNERS
2019 WINNERS

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easycabin.co.uk

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FOOTNOTES

I. Annual solar input based on usage hours per day, 130 days in winter mode and 130 days in summer mode. Each day is a typical usage day. 60p per litre red diesel.

II. CO2 per Litre of fuel / DEFRA 2019 figures. Red Diesel = 2.758

III. Solar panels achieve maximum output in direct sunlight, but they work in normal daylight and cloudy weather too. The amount of power a 48v solar panel or charging kit generates in cloudy weather will be lower compared to direct sunlight. Also the positioning of the cabin will affect the solar charging of the batteries i.e. under trees, etc. Solar assessment is based at Luton, Bedfordshire, UK.

IV. This assessment is guidance ONLY. As part of our on-going commitment to improvement we reserve the right to alter specifications,designs or figures, without prior notice. All dimensions and weights are approximate.

Carbon emission statistics are from Department for Business, Energy & Industrial Strategy. Greenhouse gas reporting: conversion factors 2019. https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy