

Marlec Direct 2024

Renewable Energy Specialists
Since 1978



The UK's Longest Standing Renewable Energy Company



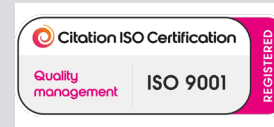
Since 1978, Marlec has been driven by a passion for renewable energy. Now, after 45 years, we are the UK's longest-standing renewable energy company, globally renowned for manufacturing the Rutland Windcharger range in our UK factory. Marlec don't only specialise in manufacturing, we're also market leaders in designing off-grid power solutions for sites where grid connection is challenging.

Our wind and solar energy based systems play a crucial role across the railways, highways, utilities, and the telecom sectors in delivering power for low energy essential equipment, as well as in the land and marine leisure industries. Marlec are also global leaders in solar powered signage and way-finding solutions.

Since its launch in 2013, Solar iBoost has helped over 120,000 homeowners with solar PV systems to enjoy free hot water. Today, Solar iBoost+ is the UK's most popular PV energy diverter, enabling homeowners to save money on their energy bills by self-consuming PV generated energy and becoming more self-sufficient.

2023 saw us introduce the Veva EV charger, the newest addition to our smarter home products. Veva is smart charge point compliant charger for homes which is PV usage enabled and the interchangeable fascia allows you to personalise it to suit your property.

We hope you'll find something of interest in this brochure and that our team can look forward to hearing from you in 2024.



Welcome to Marlec Direct 2024

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"Superb products and outstanding customer service... I am proud to support this long established British company and will continue to recommend its products to those looking for a trusted and honest supplier..."



- Andrew B (Google Review)

Marine Windchargers



2 year
warranty



Typically 140-160 Ah/day
@ 7m/s wind speed (12V)



Rutland 1200 Windcharger

The Rutland 1200 is the latest in the Rutland family of marine turbines used by yachtsmen and woman round the world. This high efficiency and technologically advanced turbine comes with a high-tech MPPT controller included, specifically designed for charging 2 battery banks and the ability to accept input for solar panels.

- Silent running in operation
- Unique Tri-namic profile blades
- Low wind start up of 2.5m/s) to maximise power generation
- Generates up to 483W@ 15m/s
- Electronic stall protection mode in high winds and over temperature
- Marine grade, modern and durable environmentally friendly materials for a high quality build and finish
- Brushless 3 phase alternator with high quality rare earth magnets
- 360° Yaw rotation
- Turbine diameter 1200mm
- Weight 7.8kg

MPPT Hybrid Controller Included :

- Intelligently tracks the peak power available to deliver more power generation
- Accepts input from 20A of solar panels (250W @ 12V, 500W @ 24V)
- Charge output to 2 battery banks
- Multi-stage battery charging ensures good battery conditioning
- Temperature compensation
- Optional remote display for viewing information at convenient locations

Rutland 1200 Windcharger (packed) - 900 x 390 x 185mm

Controller (included) - 258x164x68mm

Remote Display (Optional) - 155x145x60mm

Part No:

Rutland 1200 (12V) CA-06/01 ----- £1,527.70

Rutland 1200 (24V) CA-06/02 ----- £1,527.70

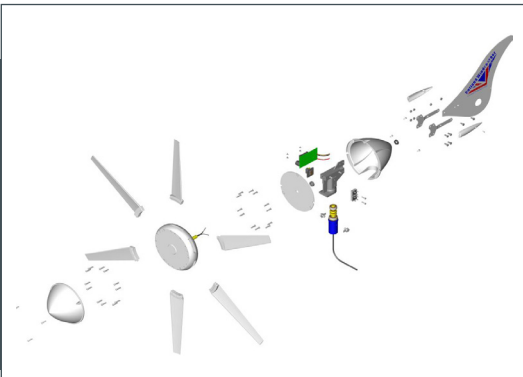
1200 Remote Display CA-07/02 ----- £170.65



Marine Windchargers



Typically 100-120 Ah/day @
7m/s wind speed (12V)



Rutland 914i Windcharger

The Rutland 914i punches well above its size for power, rivalling the claimed outputs of larger turbines owing to its built-in MPPT technology. This continuously matches the turbine speed and generator to their optimum performance to deliver more ampere hours into your battery.

- Ideal for Cruising yachts
- Based on the successful 913, renowned for its smooth quiet operation
- Built-in Maximum Power Point Tracking
- Low wind start up of 3m/s)
- Generates up to 262W@ 15m/s
- Marine grade, modern and durable environmentally friendly materials for a high quality build and finish
- Brushless 3 phase alternator
- 360° Yaw rotation
- Turbine diameter 910mm
- Weight 11.6kg



Rutland 914i Windcharger (packed) - 370 x 300 x 450mm

Select HRSi or HRDi Charge Regulator (see page 10).

Part No:

Rutland 914i (12V) CA-01/17 ----- £835.75

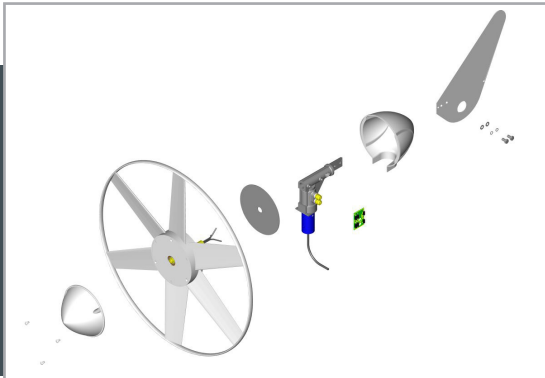
Rutland 914i (24V) CA-01/18 ----- £835.75



Marine Windchargers



Typically 10-20 Ah/day @
7m/s wind speed (12V)



Rutland 504 Windcharger

The Rutland 504 is a super compact turbine that is great for trickle charging. You can be sure that when you arrive on board your batteries will be well charged and ready for your appliances.

- Ideal for trickle charging 60-120 Ah battery
- Light and easy to install temporarily
- Low wind start up of 3m/s
- Generates up to 48W@ 15m/s
- Marine grade, modern and durable environmentally friendly materials for a high quality build and finish
- Brushless 3 phase alternator
- 360° Yaw rotation
- Turbine diameter 510mm
- Weight 3.5kg



Rutland 504 Windcharger (packed) - 3550 x 550 x 260mm

Select HRSi or HRDi Charge Regulator (see page 10).

Part No:

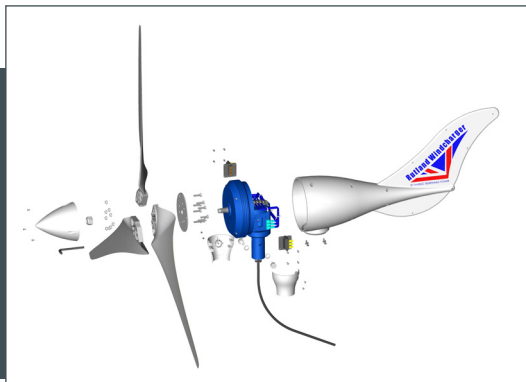
Rutland 504 (12V) CA-05/04 ----- £446.20



Land Windchargers



Typically 140-160 Ah/day @
7m/s wind speed (12V)



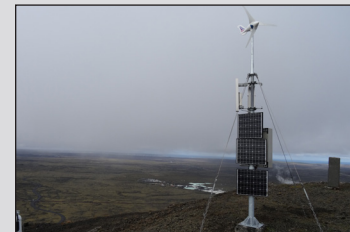
Rutland 1200 Terrain Windcharger

The Rutland 1200 Terrain is specially adapted for the rigours of isolated land based applications. The purpose designed wind only controller incorporated Marlec's MPPT technology to maximise power generation.

- Robust and high quality design
- Unique Tri-namic profile blades
- Low wind start up of 2.5m/s) to max power generation
- Generates up to 483W@ 15m/s
- Available in 12V, 24V & 48V
- Electronic stall protection mode in high winds and over temperature
- Brushless 3 phase alternator with high quality rare earth magnets
- 360° Yaw rotation
- Turbine diameter 1200mm
- Weight 7.8kg

MPPT Controller Included:

- Intelligently tracks the peak power available to deliver more power generation
- Multi-stage battery charging ensures good battery conditioning
- Temperature compensation ensures the battery voltage switching points are automatically adjusted to maintain optimum battery performance
- Optional remote display



Rutland 1200 Windcharger (packed) - 900 x 390 x 185mm

Controller (included) - 168 x 147 x 52mmmm

Remote Display (Optional) - 155x145x60mm

Part No:

Rutland 1200 X (12V) CA-06/04 ----- £1,527.70

Rutland 1200 X (24V) CA-06/05 ----- £1,527.70

Rutland 1200 X (48V) CA-06/03 ----- £1,708.30

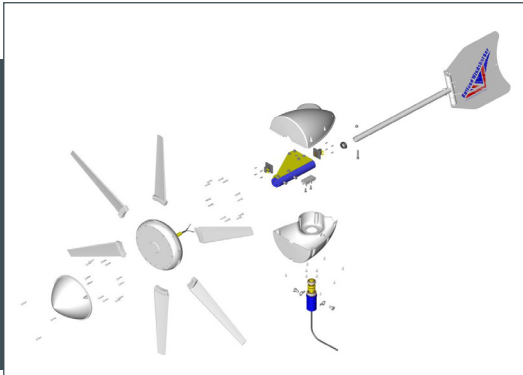
1200 Remote Display CA-07/02----- £170.65



Land Windchargers



Typically 60-80 Ah/day @
7m/s wind speed (12V)



Rutland FM910-4 Windcharger

The FM910-4 Furlmatic is without doubt the engineer's choice of micro wind turbine for battery charging at off grid locations.

Furlmatics are the most trusted choice for organisations around the world that need reliable performance in harsh weather conditions. With tens of thousands of installations globally, Furlmatics have proven their durability and efficiency time and again.

- Extremely durable construction
- Automatic furling tail fin directs turbine out of high winds
- Low wind start up of 3m/s)
- Generates up to 155W@ 15m/s
- Available in 12V & 24V
- Brushless 3 phase alternator
- 360° Yaw rotation
- Turbine diameter 910mm
- Weight 13.1kg



Rutland FM910-4 Windcharger (packed) - 945 x 344 x 262mm

Select HRSi or HRDi Charge Regulator (see page 10).

Part No:

Rutland FM910-4 (12V) CA-02/04 ----- £869.00

Rutland FM910-4 (24V) CA-02/05 ----- £869.00



Land Windchargers



Between 290-310 Ah/day @
7m/s wind speed (12V)



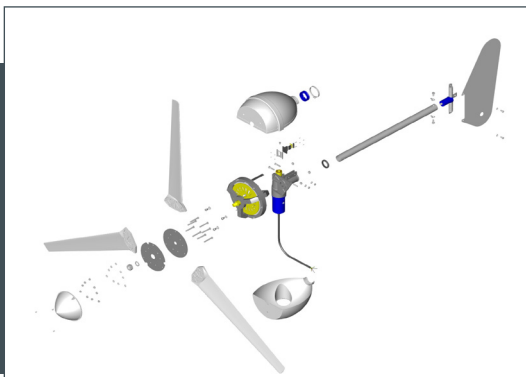
Rutland FM1803-2 Windcharger

Marlec's FM1803-2 Furlmatic Windcharger is the most powerful turbine in our portfolio and makes generating energy for power hungry remote sites affordable. This 1.8M diameter turbine is designed for use on land and has a proven track record internationally.

- Robust & powerful rare earth magnet alternator
- Automatic furling tail fin directs turbine out of high winds
- Low wind start up of 3m/s)
- Generates up to 840W@ 15m/s
- Available in 12V, 24V & 48V
- Brushless 3 phase alternator
- 360° Yaw rotation
- Turbine diameter 1800mm
- Weight 29.2kg

MPC2 Controller Included:

- LCD displays battery volts, charge currents, battery status and more
- Automatically stalls turbine to protect batteries from over charging
- Manual Shutdown Switch
- Microcontroller based electronic control that monitors battery voltage, charge current and temperature
- Optimises turbine performance based on the wind speed
- Temperature compensation ensures the battery voltage switching points are automatically adjusted to maintain optimum battery performance.



Rutland FM1803-2 Windcharger (packed) -1200 x 675 x 520

Part No:

Rutland FM1803-2 CA-03/02 (c/w control gear)

FM1803 MPC-2 Control Gear (12V) CA-04/14

FM1803 MPC-2 Control Gear (24V) CA-04/15

----- **£2,773.00**

FM1803 MPC-2 Control Gear (48V) CA-04/16

----- **£283.50**



Windcharger Accessories

Rutland Charge Controllers

Connect between the Windcharger, and solar panels where fitted, to protect the batteries from over charging. All Marlec charge regulators are designed in house specifically to work in harmony with our Rutland Windchargers. Our PWM technology slows the turbine down as the batteries become fully charged reducing unnecessary running times.



HRSi

Charge Controller for Single Battery Charging

- Designed for Rutland 504, 914i or FM910-4
- Allows up to 160W input of solar
- LED indicators show battery and charge status
- Turbine/ solar panel shut-down switch
- Bulk & float stage charging for best performance
- Temperature compensation optimises charging
- Automatic detection for 12V or 24V operation
- Dims: 130 x 80 x 42mm
- Weight: 0.185kg

Part No: CA-11/46 (12/24V) - £100.75

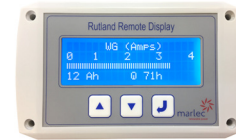


HRDi

Charge Controller for Dual Battery Charging

- All the technical features and operation of the HRSi plus:
- Digital LCD displays battery Volts, charge currents and more
 - Charge splitter for 2 battery banks
 - Push buttons to scroll screens and amend operating parameters
 - Allows connection to remote display
 - Automatic detection for 12V or 24V operation
 - Reprogrammable for use with other battery types with non standard voltage settings (with the Marlec programming cable)
 - Dims: 193 x 127 x 40mm
 - Weight: 0.42Kg

Part No: CA-11/44 (12/24V) - £225.75



HRDi Remote Display

View the display information of the HRDi controller at a more convenient location such as the instrument panel.

- Recess or surface mount
- Re-programmable features
- 3m connecting cable supplied (longer cable available)
- Can be used to stall Windcharger
- Dims: 125 x 60mm cut out
130 x 80mm fascia
- Weight: 0.184 kg

Part No: CA-11/74 - £129.10

Mounting Kits

Marine Mounting Kits are comprised of two polished marine grade stainless steel tubes pre-drilled as well as a joiner, deck fixing bracket, pole to stays attachments and stainless steel fasteners. The Marine Stays Kit is highly recommended with the mounting kits to provide a solid mounting and simple installation. The Rutland 914i & 1200 Mtg Kit's include anti-vibration feet as standard.

Rutland 504 Marine Mtg Kit

Includes 2x 1m pole sections.

Part No: CA-12/01 - £170.05

Rutland 914i Marine Mtg Kit

Includes 2x 1.2m pole sections.

Part No: CA-12/02AV - £310.75

Rutland 1200 Marine Mtg Kit

Includes 2x 1.35m pole sections.

Part No: CA-12/38AV - £342.35

Marine Stays Kit

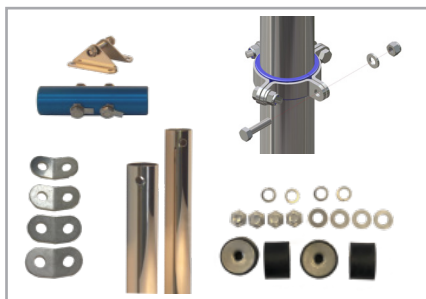
- Available in 2 lengths, each stay can be cut to the required length. 32mm Hinged push pit clamps with rubber inserts to reduce to 25mm are included.

Standard Stays Kit - 2 x 1.2m

Part No: CA-12/32 - £178.05

Extra Long Stays Kit - 2 x 1.35m

Part No: CA-12/39 - £202.15



Land Applications

Land Tower Mounting Kits and Rigging Kits are available separately. Poles must be supported by guys or use the appropriate rigging kit.

Tower Kit-503/504 for temporary installation. This is 4.0m (2 x 2m sections) of polished stainless steel.

Part No: CA-12/12 (not shown) - £194.30

Tower Kit-910 Series

For temporary or permanent installation of Rutland 910 & 1200 series Windchargers. 6.4m (3 x 2.13m sections) of 48mm diameter galvanized steel tube with joiners.

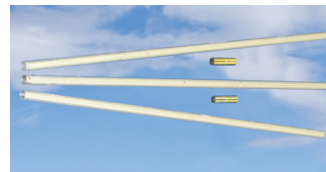
Part No: CA-12/08 - £213.45

Tower Rigging Kit-503 / 504 To Suit Tower Kit.

Part No: CA-12/13 (not shown) - £144.85

Tower Rigging Kit-910 Series complete rigging kit to support the land tower kit in permanent installations.

Part No: CA-12/07 - £223.65





Alpex Solar Framed PV Modules

Alpex solar panels have a build quality that combines a durable frame and efficient photovoltaic cells, providing reliable power generation in challenging weather conditions.

Alpex solar panels are an affordable yet robust solar panel option for applications prone to harsh wind conditions.

- Rugged frames constructed of a heavy duty anodised aluminium
- Designed to withstand forces over long term installation.
- Models over 30W are certified against degradation from salt mist corrosion.
- Anti-reflective coated high transmission glass improves performance.
- ISO9002 manufacturing facility
- Panels are backed by IEC61215 and UL1703 international standards
- Marlec is the appointed UK Distributor for Alpex Solar
- 10 year product warranty

Suitable Applications:

- Railways
- Highways
- CCTV
- Telecommunications
- Utilities
- Environmental Monitoring
- Oil Rigs
- Off-grid homes
- Motorhomes
- Marine Navigational Buoys
- Marine Leisure
- Signage

PV Module Type	Peak Power	Dimensions	Weight	Part No	Price
AL-40A	40W	435 x 665 x 25	3.18	CA-10/104A	£85.95
AL-80B	80W	796 x 665 x 35	6.1	CA-10/110B	£119.95
AL-100	100W	1006 x 675 x 30	7.5	CA-10/107A	£145.95
AL-135	135W	1320 x 680 x 50	10.5	CA-10/114	£196.95
AL-200 (24V)	200W	1382 x 982 x 35	15	CA-10/111	£237.50
AL-270	270W	1640 x 990 x 35	18.2	CA-10/115	£249.95

Ameresco Solar Framed PV Modules

This US designed solar panel is created to the highest standards and their extensive accreditation tests make them suitable for use in the most enduring applications such as offshore structures.

Ameresco solar panels are highly reliable, have a long service life and high wind resistance.

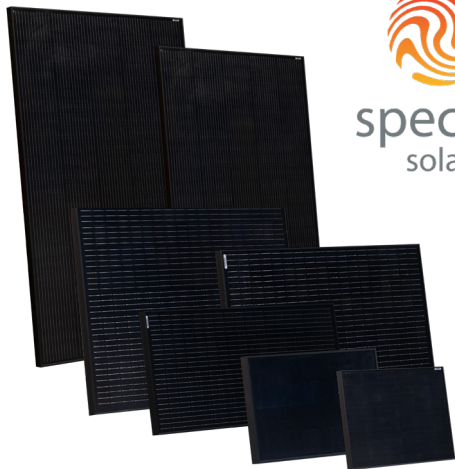
- Designed for charging batteries at permanent or mobile installations
- Durable 50mm frames keep their strength in the toughest of weather conditions
- Efficient poly and mono-crystalline cells make up the various models available.
- Certified for use in Class 1, Division 2 (C1D2) hazardous locations
- Certified to IEC 61215, IEC 61730, UL 1703 & ULC1703
- Marlec is the appointed UK Distributor for Ameresco Solar
- 10 year product warranty



Suitable Applications:

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- Marine Leisure
- Signage

PV Module Type	Peak Power	Dimensions	Weight	Part No	Price
Ameresco 10 M	10W	421 x 269 x 22.5	1.5	CA-10/g1	£73.40
Ameresco 20 J-V	20W	425 x 502 x 50	3.0	CA-10/152	£101.95
Ameresco 30 J-V	30W	790 x 358 x 50	3.90	CA-10/153	£142.75
Ameresco 40 J-V	40W	650 x 537 x 50	5.75	CA-10/154	£167.25
Ameresco 50 J-V	50W	835 x 537 x 50	6	CA-10/155	£178.45
Ameresco 90 J-V	90W	1204 x 537 x 50	7.7	CA-10/157	£316.15
Ameresco 140 J-V	140W	1504 x 674 x 50	12	CA-10/159	£346.75



Shingled Cells



Suitable Applications:

- Railways
- Highways
- CCTV
- Telecommunications
- Utilities
- Environmental Monitoring
- Oil Rigs
- Off-grid homes
- Motorhomes
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- Marine Leisure
- Signage

Spectra PERC-S Framed PV Modules

Spectra PERC-S are a range of "back contact" high efficiency solar panels exclusively designed for Marlec.

These solar panels deliver more charging power over less surface area compared with conventional cell panels. Unlike conventional panels these use intelligent PERC (Passivated Emitter Rear Cell) technology and has a Shingled Cell Module Design to achieve 15% higher energy efficiency.

- High light absorbency especially in low light
- Reliable internal electrical connections
- No reflective metal lines on the cells
- By-pass diode configuration to avoid 'hot spots' occurring in partial shade
- 2°C lower operating temperature results in longer panel life and better power yield
- Lightweight and durable aluminium frame for enhanced wind resistance
- Identical frame lengths for combining different ratings to accommodate available space
- 2 year warranty

Peak Power	Dimensions (mm)	Weight(kg)	Part No	Price
Spectra PERC-S 30W	515 x 318 x 30	1.8	CA-10/521	£73.45
Spectra PERC-S 65W	668 x 486 x 35	3.8	CA-10/565	£125.95
Spectra PERC-S 85W	942 x 454 x 35	5	CA-10/522	£139.60
Spectra PERC-S 110W	942 x 561 x 35	5.7	CA-10/523	£157.45
Spectra PERC-S 150W	942 x 775 x 35	7.8	CA-10/524	£204.70
Spectra PERC-S 220W	1096 x 942 x 35	10.8	CA-10/5220	£251.95
Spectra PERC-S 240W	1203 x 942 x 35	12.3	CA-10/5240	£283.45
Spectra PERC-S 300W	1524 x 942 x 40	15.7	CA-10/5300	£304.45
Spectra PERC-S 400W	1690 x 1106 x 40	19.8	CA-10/527	£346.45



Suitable Applications:

- Railways
- Highways
- CCTV
- Telecommunications
- Utilities
- Environmental Monitoring
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Spectralite SemiFlex & SemiFlex Pro

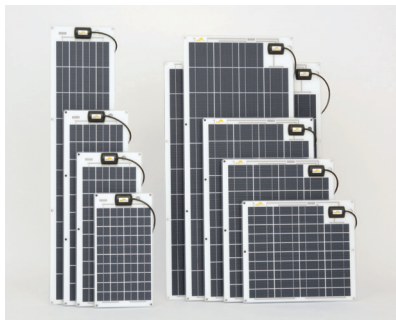
Spectralite SemiFlex solar panels are compact and efficient thanks to their high quality cell ETFE polymer and class A solar cell construction. The range is split into two; the Spectralite SemiFlex that uses Mono crystalline cells and the Spectralite SemiFlex Pro which uses the very high efficiency SunPower cells.

These panels are robust enough to be walked on. Their non-glass construction makes them shatter-proof and vandal resistant making them useful in low power commercial applications as well as on board yachts.

- Aluminium back plate to prevent cracking and improve heat dissipation
- Can be slightly flexed without cell damage
- Corners are rounded with 4 cut out eyelets for easy installation
- Lightweight, ultra flat, scratch-proof and sea/salt water resistant
- Built-in blocking diode and 3M twin core cable included
- Market-leading DuPont coating on Pro range
- Panels are wind resistant when mounted on a flat surface
- 2 year warranty

PV Module Type	Peak Power	Dimensions	Weight	Part No	Price
Spectralite SemiFlex	10W	450 x 200 x 4	0.7	CA-10/450	£49.95
Spectralite SemiFlex	30W	600 x 365 x 4	1.35	CA-10/453	£109.95
Spectralite SemiFlex Pro	50W	570 x 520 x 4.5	1.8	CA-10/455	£190.00
Spectralite SemiFlex Pro	100W	1055 x 520 x 4.5	3.1	CA-10/456	£340.00
Spectralite SemiFlex Pro	150W	1460 x 540 x 4.5	5.3	CA-10/457	£529.95
Spectralite SemiFlex Pro	200W	1210 x 850 x 4.5	5.4	CA-10/458	£649.95

For cables and connectors go to the T4 range on page 24



Suitable Applications:

- Railways
- Highways
- CCTV
- Telecommunications
- Utilities
- Environmental Monitoring
- Oil Rigs
- Off-grid homes
- Motorhomes
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- Signage



SunWare Semi-Flexible PV Modules

SunWare is a no-compromise built solar panel manufactured in Germany with a history in solar dating back to 1987. Their marine grade panels use high performance monocrystalline PERC cells so that they run cooler and deliver a high output to size ratio. These panels have an unsurpassed build quality that allows them to be walked on.

SunWare solar panels have the highest power output to surface area ratio of walk on semi-flexible solar panels on the market.

- These non-glass panels are shatter-proof and lightweight
- Sea water resistant & marine grade materials used
- Rugged anti-slip walk-on surface
- Screwed and sealed junction box on the front or rear
- 3m waterproof cable with in-line cell protector
- Flexible over 3% of their length to fit slight curves
- Soil resistant coating keeps the solar panels generating efficiently
- Marlec is the appointed UK Distributor for SunWare
- 3 year warranty

PV Module Type	Peak Power	Dimensions (mm)	Weight (kg)	Part No	Price
SW20143 12V Slim	15W	468 x 243 x 5	0.8	CA-10/217	£244.95
SW40143 12V Rect	15W	468 x 243 x 5	0.8	CA-10/218	£244.95
SW20145 12V Slim	30W	273 x 807 x 5	1.6	CA-10/201	£316.80
SW20163 12V Rect	30W	481 x 426 x 5	1.3	CA-10/202	£335.15
SW20146 12V Slim	42W	273 x 1154 x 5	2.2	CA-10/204	£372.35
SW20164 12V Rect	42W	481 x 599 x 5	1.8	CA-10/205	£396.80
SW20165 12V Rect	60W	481 x 772 x 5	2.3	CA-10/207	£518.95
SW20166 12V Rect	80W	481 x 1119 x 5	3.6	CA-10/208	£627.05
SW20185 12V Rect	110W	689 x 1012 x 5	4.7	CA-10/209	£710.35

24V SunWare solar panels available on request



Suitable Applications:

- Railways
- Highways
- CCTV
- Telecommunications
- Utilities
- Environmental Monitoring
- Oil Rigs
- Off-grid homes
- Motorhomes
- Marine Leisure
- Signage



SunWare Textile Foldable PV Modules

SunWare's Textile solar panels are a great space saving, on board power solution that utilises the unused sprayhood. They can be temporarily fitted using the high quality fixings and conveniently removed, folded and stored flat.

These panels are constructed using SunWare's semi-flexible base panels, with a tough but soft fabric surround designed for use on board. The waterproof connector and cable included means that installation is fast and simple.

- Ideal for
- Seawater resistant and marine grade fabric
- Waterproof plug and coupler are enclosed for easy electrical installation
- Monocrystalline PERC solar cells for maximum performance
- Non-glass-module with unbreakable Nowoflon foil
- 10m of cable and a waterproof connector included
- A convenient and high quality solution for temporary installations
- LOXX fasteners built-in for easy installation
- 100% maintenance-free, self cleaning surface
- 3 year warranty

PV Module Type	Peak Power	Dimensions	Weight	Part No	Price
TX-12039 - Single	45W	873 x 431	2.2	CA-10/211	£535.15
TX-12052 - Single	60W	1108 x 431	2.6	CA-10/212	£627.05
TX-22039 - Double	90W	873 x 826	4.2	CA-10/213	£965.50
TX-22052 - Double	120W	1108 x 826	4.6	CA-10/214	£1,156.85
TX-42039 - Quadruple	180W	929 x 1590	8.2	CA-10/215	£1,508.25
TX-42052 - Quadruple	240W	1164 x 1590	8.6	CA-10/216	£1,697.45

24V SunWare TX solar panels available on request

Solar Charge Controllers

Solar regulators provide battery overcharge protection and some models include a deep discharge protection feature. All solar regulators include diodes to prevent reverse current in darkness. To calculate the regulator needed divide the solar panel Watt rating by the system Voltage to arrive at the maximum Amps. Choose a regulator of this minimum rating. E.g. $65W/12V = 5.4Amps$



Solsum 10.10

steca
Elektronik



Steca PR 3030

Model	Operating Voltage	Max Rated Current	Part No	Price
Solsum 6.6F	12V / 24V	6 Amps	CA-11/14	£30.20
Solsum 8.8F	12V / 24V	8 Amps	CA-11/15	£38.50
Solsum 10.10	12V / 24V	10 Amps	CA-11/16	£47.80
Steca PR1010	12V / 24V	10 Amps	CA-11/37	£100.60
Steca PR1515	12V / 24V	15 Amps	CA-11/34	£111.90
Steca PR2020	12V / 24V	20 Amps	CA-11/35	£125.70
Steca PR3030	12V / 24V	30 Amps	CA-11/36	£152.00

Steca PWM

Marlec has distributed for Steca in the UK for many years giving us a wealth of experience with their range. We recommend Steca Solar regulators to all our customers and specify them in many of our professional power systems. All Steca regulators come with 5 years warranty.

The Steca range offers regulators with either simple LED system indicators or LCD displays.

Solsum and PR Ranges feature:

- Efficient Pulse Width Modulation (PWM) charge regulation
- Battery deep discharge protection disconnects load & auto reconnects once recovered
- Automatic detection of operating voltage - 12/24 V
- Temperature compensated regulation

PR Range includes additional features:

- LCD for charge & discharge currents, Volts and more
- Push button field adjustable parameters plus more
- External temperature sensor available

Marlec are an appointed UK Distributor for Steca solar regulators



Solar Charge Controllers



Spectra PWM & MPPT

Spectra is Marlec's own range of solar charge controllers for PV systems, the range is available in PWM (Pulse Width Modulation) and MPPT (Maximum Power Point Tracking).

PWM

These intelligent regulators use PWM technology to deliver bulk, absorption, float and equalised charging regimes ensuring batteries get fully charged and are maintained in good condition.

MPPT

These MPPT solar controllers use full digital technology to efficiently track the Max Power Point at 99.9% to boost the energy yield of your solar panels. Multi-stage charging ensures good battery conditioning to improve the lifetime of batteries too.

Both Types Feature

- User adjustable voltage setting
- Automatic system voltage setting
- Low voltage disconnect feature
- Temperature compensation
- Over current and reverse discharge protection
- LCD display with push buttons operation
- PWM 10A, PWM 20A & 10A MPPT models include USB charging points
- 20A & 40A are bluetooth compatible
- All Spectra regulators come with 2 year warranty

Regulator Model	Max Solar Panel Rating		Dimensions(mm)	Part No	Price
	12V	24V			
Spectra PWM 10A	125W	250W	160 x 88 x 43	CA-11/110	£37.20
Spectra PWM 20A	250W	500W	178 x 102 x 46	CA-11/111	£43.50
Spectra PWM 30A	375W	750W	196 x 111 x 54	CA-11/112	£74.95
Spectra MPPT 10A	130W		189 x 96 x 53	CA-11/130	£66.95
Spectra MPPT 20A	260W	520W	137 x 137x 68	CA-11/135	£127.95
Spectra MPPT 40A	520W	1040W	197 x 137 x 98	CA-11/136	£163.95



Solar Charge Controllers



Morningstar SunSaver Duo



Remote Meter
(MPPT & Duo)



Morningstar SunSaver
SS & SL



Morningstar
SunGuard



TriStar

Morningstar PWM

Morningstar is the world's leading brand of solar regulators and in our experience offers one of the most robust products in the market. Every product in the range is built to the highest standards and will last in the toughest of applications. All Morningstar regulators come with a 5 year warranty.

Morningstar PWM Regulators Range

Efficient Pulse Width Modulation shunt charge regulation. Low voltage disconnect facility on all models except the SunGuard. Marine rated terminals throughout.

- SunGuard and SunSaver models for single battery banks
- SunSaver duo for dual battery banks
- Remote Meter option for Duo model, 10m cable included.
- Available in 12 & 24V

TriStar PWM Regulators

Tristar PWM regulators control charge, load and act as a diversion regulator. Flexible operation from 12-48V with power handling capacities up to 45 & 60A. High efficiency PWM charging control ensures batteries are fully replenished and battery capacity is maximised.

- LED indicators.
- RS232 communications socket for connection to PC.
- Reverse polarity and other protections make this a very rugged product for use in professional systems.

Marlec are proud to be an appointed Morning Star UK distributor.

Model	Operating Voltage	Max Rated Current	Dimensions	Part No	Price
SunGuard 4.5A	12V	4.5 Amps	64 x 51 x 38	CA-11/26	£46.90
SunSaver SS-10 L	12V	10 Amps	152 x 55 x 34	CA-11/38	£99.45
SunSaver SS-10 L	24V	10 Amps	152 x 55 x 34	CA-11/10	£110.15
SunSaver SS20L	12V	20 Amps	152 x 55 x 34	CA-11/11	£136.65
SunSaver SunLight SL-10	12V	10 Amps	169 x 55 x 34	CA-11/29	£123.95
SunSaver Duo SSD-25	12V	25 Amps	170 x 56 x 41	CA-11/12	£131.55
Remote Meter (MPPT & Duo)			114 x 114 x 35	CA-11/13	£120.35
TriStar 45A PWM Controller	12V / 24V / 48V	45 Amps	260 x 127 x 71	CA-11/66	£242.75
TriStar 60A PWM Controller	12V / 24V / 48V	60 Amps	260 x 127 x 71	CA-11/58	£304.95



Solar Charge Controllers



Eco Pulse – PWM Controller



Eco Boost – MPPT Controller



Morningstar PWM & MPPT

Morningstar EcoPulse and EcoBoost Solar Controllers

Morningstar's reputation for exceptional quality and reliability in professional systems can be found in their new Essentials range designed for leisure and less complex applications.

Both models feature:

- Built-in display
- Pulse Width Modulation type regulation
- 4-stage charging keeps batteries in top condition
- Built-in dusk to dawn lighting controller
- Adjustable charge settings
- Adjustable load controls -inc low voltage disconnect /reconnect
- Marine rated terminals up to 16mm²
- LED fault indicators & charge /battery status indicators
- Battery reverse polarity protected

Eco Boost additional features

- Gain up to 30% more from your solar panels using Morningstar's Trakstar MPPT technology EcoBoost.
- MPPT enables the use of higher voltage panels for 12/24V charging
- Includes 2 x USB charger points and mobile phone holder

Model	Operating Voltage	Max rated Current	Dimensions	Part No	Price
EcoPulse with Meter 10A	12V / 24V	10A	150 x 110 x 60mm, 0.4kg	CA-11/96	£112.15
EcoPulse with Meter 20A	12V / 24V	20A	150 x 110 x 60mm, 0.4kg	CA-11/97	£147.85
EcoPulse with Meter 30A	12V / 24V	30A	150 x 110 x 60mm, 0.4kg	CA-11/98	£176.45

Model	Max Solar Panel Rating		Dimensions	Part No	Price
	12V	24V			
EcoBoost MPPT 20A	300W	600W	200 x 170 x 70mm, 1.4kg	CA-11/121	£251.90
EcoBoost MPPT 40A	560W	1120W	200 x 170 x 70mm, 1.4kg	CA-11/122	£428.35



Solar Charge Controllers



Morningstar MPPT

Morningstar TriStar MPPT

The Tristar MPPT models feature a wide operating voltage range making them ideal for large professional PV systems up to 3kWp. Designed for tough environments, the TriStars incorporate a number of electronic overload protection features.

- Suitable for 12V, 24V, 36V and 48V battery systems
- Industry leading 99% peak efficiency for off-grid charge controllers
- Environmental protective features, e.g. marine rated terminals
- Extensive networking & communications capability for system monitoring, data logging and adjustability
- TriStar MPPT can handle up to 130% of rated output power, allowing for oversizing of PV array yielding more and higher power throughout the day

SunSaver MPPT

The SunSaver MPPT improves the performance of small PV systems and enables the use of larger, high voltage solar panels in 12V or 24V battery charging applications. 4 stage charging promotes longer battery lifetime.

TriStar Meter -2

The meter connects to the Tristar PWM or MPPT controller and will display information about the operation of your system. Can be flush mounted up to 30m from the controller with supplied cable.

Model	Max Solar Panel Rating			Dimensions	Part No	Price
	12V	24V	48V			
TriStar MPPT 30A	400W	800W	1600W	291 x 130 x 142	CA-11/87	£529.35
TriStar MPPT 45A	600W	1200W	2400W	291 x 130 x 142	CA-11/62	£647.65
TriStar MPPT 60A	800W	1600W	3200W	291 x 130 x 142	CA-11/65	£790.45
SunSaver MPPT 15A	200W	400W		169 x 64 x 73	CA-11/56	£341.65
TriStar Remote Meter -2				116 x 116	CA-11/64	£168.25
TriStar Digital Meter-2				116 x 116	CA-11/63	£136.65



Off-Grid Inverter



Spectra Inverters

An off grid inverter enables you to operate mains appliances using the energy stored in your batteries. The appliances you can use depend on the amount of power (W) they consume and how long they will run for. It is important to consider the type of appliances you will run as this determined whether you choose Pure Sinewave or Modified Sinewave. All our inverters are supplied with UK sockets. All Spectra inverters come with 2 years warranty.

Modi-Sine

High frequency modified sinewave inverters are designed for operating simple electrical devices such as lights (non-fluorescent), kettle or heater, essentially items without motors or inductive loads.

Pure-Sine

High frequency pure sinewave inverters closely emulate grid power so are suitable for all types of electric appliances and in particular products that might include a motor which must be operated using pure sinewaves. This range is a must for sensitive electrical and electronic items such as audio equipment, laser printers and fluorescent lights.

A USB charging point (5V 2.1A) is built in to both models for easy mobile charging

Inverters	Peak Power	Dimensions	Weight	Part No	Price
Spectra Modi-Sine 600 Inverter	600W	230 x 102 x 57.5	1	CA-14/110	£49.95
Spectra Modi-Sine 1000 Inverter with remote	1000W	265 x 200 x 97	2.4	CA-14/111R	£106.95
Spectra Modi-Sine 1600 Inverter with remote	1600W	320 x 200 x 97	3	CA-14/112R	£137.95
Spectra Pure-Sine 700 Inverter with remote	700W	50 x 168 x 96	1.8	CA-14/100R	£139.95
Spectra Pure-Sine 700 Inverter with remote (24V)	700W	50 x 168 x 96	1.8	CA-14/100RX	£145.00
Spectra Pure-Sine 1200 Inverter with remote	1200W	311 x 168 x 96	2.6	CA-14/101R	£169.95
Spectra Pure-Sine 2200 Inverter with remote	2200W	325 x 252 x 101	5	CA-14/102R	£329.95



Cables & Connectors

Getting the right size cable is essential to safety and efficient operating of your wind turbine system. Select cable diameters related directly to the length to be used. More info can be found on our website and product manuals. The below cables are round and tinned for marine use.

MC-T4 Cables & Connectors

T4 Plug / Socket In-line
Diode 15A

Part No: 901-151 - £13.95



MC-T4 Branch Connectors
Plug/Socket (Pair)

Part No: 901-152 - £22.05



Solar Cables 4mm T4
Plug/socket (pair)

5M Part No: SA-13/20 - £36.50

10M Part No: SA-13/21 - £50.35



Rutland 504, 914 & FM910-4 2 core copper cables:

OceanFlex 2.5mm² for 0-20m lengths in 12 / 24V

Part No: 902-036 - £3.85

4mm² for up to 30m lengths in 12 / 24V

Part No: 902-021 - £5.45



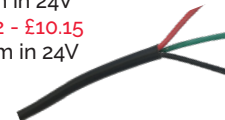
Rutland 1200 3 core tinned copper cables:

4mm² for up to 10m lengths in 12V or 40m in 24V

Part No: 902-042 - £10.15

6mm² for up to 20m lengths in 12V or 75m in 24V

Part No: 902-043 - £22.94



Rutland 1803 4 core tinned copper cables:

1.5mm² for 0-100m lengths in 12V/24V

Part No: 902-066 - £3.10



Solar Cable

4mm² black solar cable

Part No: 902-251 - £2.10



Battery Clamps

Marlec Battery Clamps

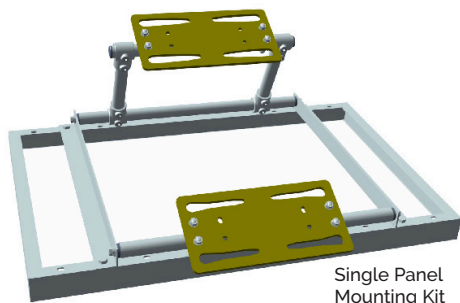
Part No: 901-039 - £9.20



OJOP Battery Clamps

Part No: 901-030 - £19.65

Solar Mounting Kits



Single Panel Mounting Kit

Marlec's solar mounting kits are an easy to assemble and install mounting option for glass solar panels. They are designed and manufactured in the UK, using high-quality materials and components. The kits are compatible with Marlec's wide range of glass solar panels and all the necessary components are included.

- Single and dual brackets are available
- U-bolts included
- Models available for Ameresco and Alpec and Spectra solar panels
- Optional bird spikes available

Ameresco Mounting Kits

	Part No:	Price
Solar Pole Mnt Kit 1 x 10W	CA-12/0010	£55.45
Solar Pole Mnt Kit 2 x 10W 410M	CA-12/51	£58.95
Solar Pole Mnt Kit 1x 20W	CA-12/0020	£87.30
Solar Pole Mnt Kit 2x 20W Am420J	CA-12/53	£121.50
Solar Pole Mnt Kit 1 x 30W	CA-12/0030	£87.30
Solar Pole Mnt Kit 2 x 30W	CA-12/0030D	£121.50
Solar Pole Mnt Kit 1 x 40W	CA-12/0040	£92.00
Solar Pole Mnt Kit 2 x 40W	CA-12/0040D	£121.50
Solar Pole Mnt Kit 1 x 50W	CA-12/0050	£90.80
Solar Pole Mnt Kit 2 x 50W	CA-12/0050D	£127.40
Solar Pole Mnt Kit 1 x 90W	CA-12/0090	£101.45
Solar Pole Mnt Kit 2 x 90W	CA-12/0090D	£188.70
Solar Pole Mnt Kit 1 x 140W	CA-12/0140	£188.70
Solar Pole Mnt Kit 2 x 140W	CA-12/0140D	£200.55

Alpec Mounting Kits

	Part No:	Price
Solar Pole Mnt Kit 1 x 20W	CA-12/0020A	£73.10
Solar Pole Mnt Kit 1x 30W	CA-12/0030A	£79.00
Solar Pole Mnt Kit 1 x 40W	CA-12/0040A	£85.30
Solar Pole Mnt Kit 1 x 50W	CA-12/0050A	£92.30
Solar Pole Mnt Kit 1 x 80W	CA-12/0080A	£97.10
Solar Pole Mnt Kit 1 x 100W	CA-12/0100A	£108.80
Solar Pole Mnt Kit 1 x 135W	CA-12/0135A	£158.60
Solar Pole Mnt Kit 1 x 200W	CA-12/0200A	176.86

Spectra Mounting Kits

	Part No:	Price
Solar Pole Mnt Kit 1 x 30W	CA-12/0035PS	£95.75
Solar Pole Mnt Kit 1x 65W	CA-12/0065PS	£99.15
Solar Pole Mnt Kit 1 x 85W	CA-12/0085PS	£106.60
Solar Pole Mnt Kit 1 x 110W	CA-12/0110PS	£132.00
Solar Pole Mnt Kit 1 x 150W	CA-12/0150PS	£143.05
Solar Pole Mnt Kit 1 x 220W	CA-12/0220PS	£166.40
Solar Pole Mnt Kit 1 x 240W	CA-12/0240PS	£168.10
Solar Pole Mnt Kit 1 x 400W	CA-12/400	£182.40

Off-Grid Batteries



Lithium batteries available on request,

GEL Batteries

Ah Rating @ C20	Part No:	Price
12	CA-17/04	£53.55
18	CA-17/30	£77.85
36	CA-17/36	£132.45
45	CA-17/31	£171.90
60	CA-17/32	£223.80
75	CA-17/05	£266.00
88	CA-17/37	£318.95
105	CA-17/33	£333.00
122	CA-17/38	£378.40
161	CA-17/35	£475.70
191	CA-17/39	£546.00
246	CA-17/40	£723.70

Two or more batteries can be connected in parallel to increase the capacity in Ampere hours or in series to increase the voltage to 24V. The battery capacity selected depends on the charge input and the electrical equipment load. Typically we recommend a reserve capacity of between 3-10 days of energy. Call our sales team to discuss your requirements. All batteries come with 2 years warranty.

Absorbed Glass Mat (AGM) Batteries

AGM batteries are a quality alternative to the traditional "wet" lead-acid ranges. They are robust and able to deep cycle more than wet batteries. The electrolyte is contained in a glass mat which will not leak, even if the casing is broken so they are ideal for leisure applications. 3-5 year expected life.

Gel Batteries

GEL Batteries are designed for professional or system critical installations. They are able to withstand a higher number of deep cycles and are a good choice for standby power in professional applications. 5 year expected life.

AGM Batteries

Ah Rating @ C20	Part No:	Price
12	CA-17/17	£37.35
38	CA-17/21	£129.55
61	CA-17/20	£194.60
87	CA-17/23	£248.65
92	CA-17/19	£270.25
108	CA-17/24	£301.90
135	CA-17/26	£362.20
166	CA-17/25	£424.90
181	CA-17/28	£481.10
226	CA-17/29	£583.80



Battery Monitoring



Chargemetrix

The Chargemetrix Battery Monitor is a smart device that allows you to monitor the battery performance from anywhere, anytime. It connects to the battery via a simple clamp and sends data to your smartphone or web dashboard via cellular network.

You can access real-time and historical information about your battery voltage, current, state of charge, temperature, and more. You can also set up alerts and notifications to warn of any potential issues or failures.

The Chargemetrix Battery Monitor helps to optimise your battery usage, extend its lifespan, and prevent costly damages. It is compatible with any 12V or 24V battery system and works in any location with cellular coverage.

Features

- Suitable for marine, leisure and commercial applications
- GPS for location and tracking
- Updates every 15 minutes
- Low power consumption
- Globally operation
- Instant email notifications
- Works on all devices (PC's, mobile phones and tablets)
- Comprehensive reporting
- Made in the UK

Off-Grid Systems



Professional Systems

Our UK manufactured green systems are market leaders in providing power to professional applications, thanks to their comprehensive design process, product reliability and the ability to be modified to suit customer requirements.

Marlec's green systems can be seen around the world providing vital power to infrastructure.

- Street Lighting
- CCTV
- Environmental Monitoring
- Highway & Railway signage
- Telecommunications



Off-Grid Systems



Solar Signage

In 2022 we introduced a new off-grid lighting controller to our portfolio. The Marlec LC101 controller uses state of the art technology to maximise the power generated from the solar panel, as well as giving full control to the customer for programming all lighting parameters (Lux levels, dimming levels and dusk to dawn settings).

These new lighting kits offer the signage industry a fully off-grid signage illumination solution, an alternative to the expensive mains electricity powered systems that are used widely today.

- Environmentally friendly
- Easy to Install
- Minimum Disruption
- Maintenance Free
- Year Round Power Generation



Smarter Home Devices

UK's No1
PV ENERGY
DIVERTER



iBOOST+ BUDDY

The optional iBoost+ Buddy enables the homeowner to remote control and monitor their Solar iBoost+ from anywhere in the home. The eco-gauge and intuitive "traffic light" indicator lets you know when unused energy is available and allows you to remotely activate the Boost function.

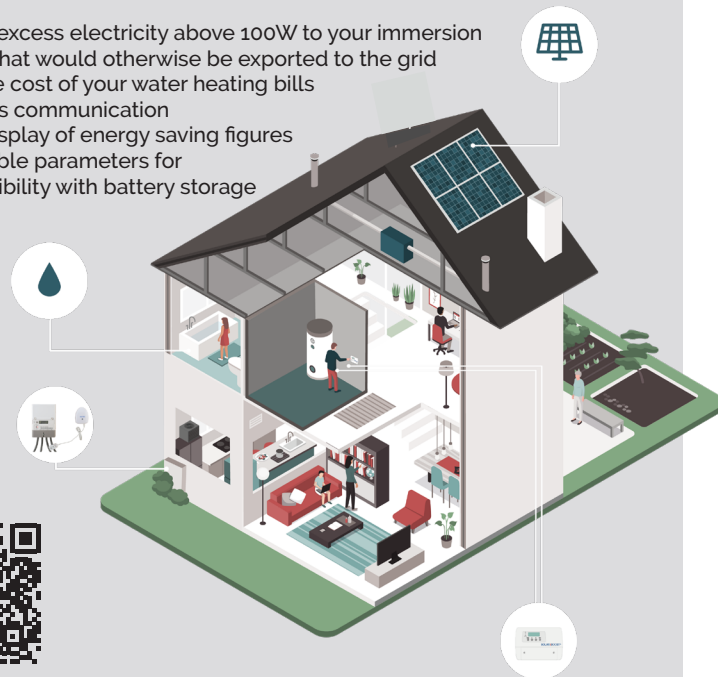


SOLAR iBOOST+

FREE HOT WATER FROM YOUR PV ARRAY

Divert excess solar PV energy to your hot water tank and get free hot water with Solar iBoost+. With over 120,000 installations Solar iBoost+ has become the must have home energy product for homeowners with solar PV.

- Diverts excess electricity above 100W to your immersion heater that would otherwise be exported to the grid
- Cuts the cost of your water heating bills
- Wireless communication
- Clear display of energy saving figures
- Adjustable parameters for compatibility with battery storage



Smarter Home Devices

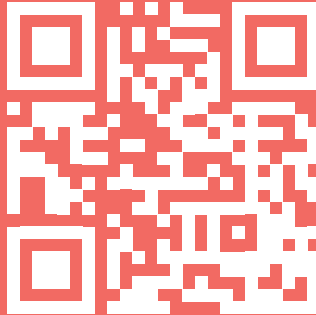


CHARGING CHANGE

Veva charger is the newest product to join our range of smarter home devices, this 7.4kW EV charger has been designed and manufactured in the UK with simple installation and operation in mind.

- Available in Tethered & Untethered
- Simple to install & commission
- Load Balancing & PEN Protection Built-in
- Compliant & Future-proofed
- Intelligent & controllable
- Compatible with Solar PV
- Interchangeable fascias
- Free IOS & Android mobile app





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