

MARLEC DIRECT 2009

MARLEC
DIRECT
2009



Wind & Solar Power - *It's free naturally!*



Marine Windchargers - *ideal for on-board charging*

Install a Rutland Windcharger and experience the convenience of fully charged batteries. Power that is readily available for lights, navigation equipment, laptops and other electrical appliances. Free and renewable energy for marine and land based applications from the gentlest breeze can be combined with solar panels for a balanced year round power supply.

Rutland 913 Windcharger



- ◆ Ideal for cruising yachts and static caravans.
- ◆ Excellent low wind speed performance
- ◆ Generates up to 300W
- ◆ Output: 7.5A @ 19 knots (12V system)
- ◆ Turbine diameter: 910mm
- ◆ Weight: 10.5Kg
- ◆ HRSi, HRDi or HRDX Regulator recommended.

Part Nos: 12V CA-01/15 £493-95
24V CA-01/16 £493-95



Powerful, efficient, robust and one of the quietest Windchargers in operation.

See Sailing Today January 2009 for the latest review of our "flagship" Rutland 913 Windcharger.

Rutland 504 Windcharger



- ◆ Ideal for trickle charging small battery systems on board boats & touring caravans.
- ◆ Light and easy to install temporarily.
- ◆ Generates up to 80W.
- ◆ Output: 2A @ 19 knots.
- ◆ Turbine diameter: 510mm.
- ◆ Weight: 3.5Kg.
- ◆ HRS503, HRSi, HRDi or HRDX Regulator recommended.

Part No: 12V CA-05/04 £303-95

Boat Owner *NEW* streamlined design for 2009!



The Rutland 504's improved aerodynamic lines track the wind better than ever.

Features a compact safety turbine, ideal on board to avoid ropes snagging.

Land-based Windchargers - *powerful and robust designs*

When you need power at a remote site the Furlmatic model windchargers provide a reliable and cost effective solution. Power generated can be used for off-grid homes, remote telecommunications, monitoring, electric fences etc avoiding the costly and inconvenient installation of grid power. The Furlmatic Windchargers protect themselves by reducing the rotation speed of the turbine in extremely high winds in a design that continues to stand the test of time.

FM910-3 Furlmatic Windcharger



- ◆ Peaks up to 200W pre-furling.
- ◆ Turbine diameter: 910mm
- ◆ Weight: 15Kg
- ◆ HRSi, HRDX or HRDi Regulator recommended.

Part Nos:	12V	CA-02/01	£586-95
	24V	CA-02/02	£586-95

Rugged and proven, the FM910-3 Furlmatic has been used worldwide including in the extreme conditions of the Himalayas and the N & S Poles.

FM1803-2 Furlmatic Winddcharger



- ◆ Peaks up to 750W pre-furling.
- ◆ Manual stall facility.
- ◆ Turbine diameter: 1869mm
- ◆ Tower top weight: 35.2Kg
- ◆ MPC1 Controller (shown below) included protects batteries against overcharge.
- ◆ Digital display.

Part Nos:	Windcharger:	CA-03/02 plus	
	Control Gear:	CA-04/10 12V or	
		CA-04/11 24V	£1541-95



This is the 3rd generation of our 1.8m diameter wind turbine. The latest 3 blade design is more powerful and lighter in weight than earlier versions.

MPC Charge Controller

4 Windcharger Accessories

Charge Regulators

Connect between the Windcharger, plus solar panels where fitted, and the battery to prevent overcharge. All Marlec charge regulators use pulse width modulation (PWM) and this slows the turbine down as the batteries become fully charged. Choose between the single bank HRS range or the dual bank HRD range.

Charge Regulators For Single Battery Banks



HRSi Regulator

- ◆ For use with Rutland 913, FM910-3 and 503 / 504 with up to 160W of solar panels.
- ◆ Led indicators show battery and charge status.
- ◆ Turbine / solar panel shutdown switch.
- ◆ Bulk & float stage charging for best performance.
- ◆ Temperature compensation for all charging conditions.
- ◆ Automatic voltage recognition for use with 12 and 24 V systems.

Dims: 130x 80x42mm
Weight: 0.185Kg.

Part No: **CA-11/46 12/24V** £68-95

NEW IN 2008

HRS503 Regulator

- ◆ For use with Rutland 503 / 504 with up to a 100W of solar panels.
- ◆ Led indicators show battery and charge status.
- ◆ Flying lead connection

Part No: **CA-11/45 12V** £44-95

Dims: 150x75x34mm
Weight: 0.12Kg

For Rutland
504 or 503
ONLY



Charge Controllers For Dual Battery Banks



HRDi Charge Controller

- ◆ Simple combination of one Rutland 503 / 504, 913 or FM910 plus up to 160W of solar panels.
- ◆ Digital versatile LCD displays both battery volts and charge currents and much more.
- ◆ Charge splitter for 2 battery banks.
- ◆ Turbine / solar panel shutdown switch.
- ◆ Automatic detection for 12 or 24 V operation

Part No: **CA-11/44 12/24V** £146-95

Dims: 193x127x40mm
Weight: 0.42Kg

NEW FOR 2009

HRDX Charge Controller

- ◆ Simple combination of one Rutland 503 / 504, 913 or FM910 plus up to 100W of solar panels.
- ◆ 5 Position switchable LCD displays battery volts & charge currents.
- ◆ Charge splitter for 2 battery banks.
- ◆ Turbine / solar panel shutdown switch.

Part No: **12V CA-11/42** £137-95
24V CA-11/43 £137-95

Dims: 157x137x59mm
Weight: 0.85Kg



Windcharger Mounting Kits

Marine Mounting Kits

These comprise of 2 polished stainless steel tubes predrilled and with a joiner, a deck fixing bracket, guy to pole attachments (guys not included) and stainless steel fasteners.

503/504 Kit has 2 x 1m pole sections

913 Kit has 2 x 1.2m pole sections



CA-12/01

CA-12/02

Rutland 503 / 504 Marine Mtg Kit

Part No: CA-12/01 £ 97-95

Rutland 913 Marine Mtg Kit

Part No: CA-12/02 £125-95

Top sections of pre-drilled stainless steel tube are available for customers to adapt to own tower design as follows:

S Steel Tube (Rutland 913) 1200mm **Part No: CA-12/03 £34-50**

S Steel Tube (Rutland 913) 600mm **Part No: CA-12/04 £23-50**

S Steel Tube (Rutland 503/504) 1000mm **Part No: CA-12/15 £28-50**

S Steel Tube (Rutland 503/504) 500mm **Part No: CA-12/16 £20-50**



CA-12/09

Deck Mounting Brackets – Purpose designed stainless steel brackets for mounting your own single length pole to a flat surface. Note that poles must be supported by solid stays.

Part Nos: (913) CA-12/09 £18.95 (503) CA-12/23 £18-95



CA-12/32

Marine Stays Kit in polished stainless steel comprises :-

2 x 1.2m stays which can be cut to required length, 4 x end caps and 2 x hinged clamps of 32mm diameter with cushioning rubber inserts suitable for 25mm diameter rail.

Part No: CA-12/32 £97-95 NEW FOR 2009

Land Mounting Kits: Tower and rigging kits are available separately. Poles must be supported by guys or use rigging kit.

Tower Kit-503 / 504 – For temporary installation. This is a 4.0m (2 x 2m sections) of polished stainless steel tube ready drilled for assembly complete with joiner and ground spike.

Part No: CA-12/12 (not shown) £107-95

Tower Rigging Kit-503 / 504 – Complete with guys ready fitted to tower attachments, shackles and ground anchors (anchors suitable for temporary installation on firm ground). For permanent installation or other ground types alternative anchors may be required.

Part No: CA-12/13 (not shown) £72-95



CA-12/08

Tower Kit-910 Series – 6.4m (3 x 2.13m sections) of 48mm diameter galvanized steel tube ready drilled for assembly complete with joiners. Suitable for temporary or permanent installation of Rutland 913 or FM910-3 Windchargers

Part No: CA-12/08 £102-95

Tower Rigging Kit-910 Series – Complete with steel guys, shackles, turnbuckles, pole attachments, ground fixings for pole and guys. Designed for permanent installation, concrete base for pole and guy anchors recommended.

Part No: CA-12/07 £143-95



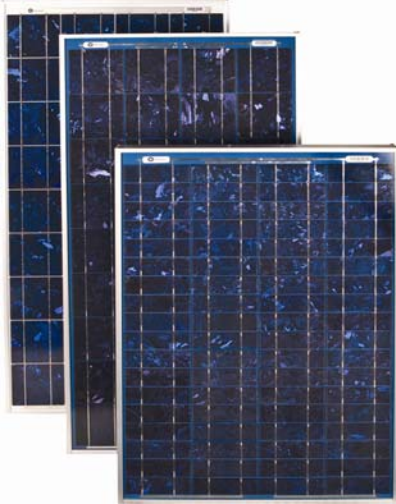
CA-12/07

All prices include VAT

For advice call +44 (0)1536 201588

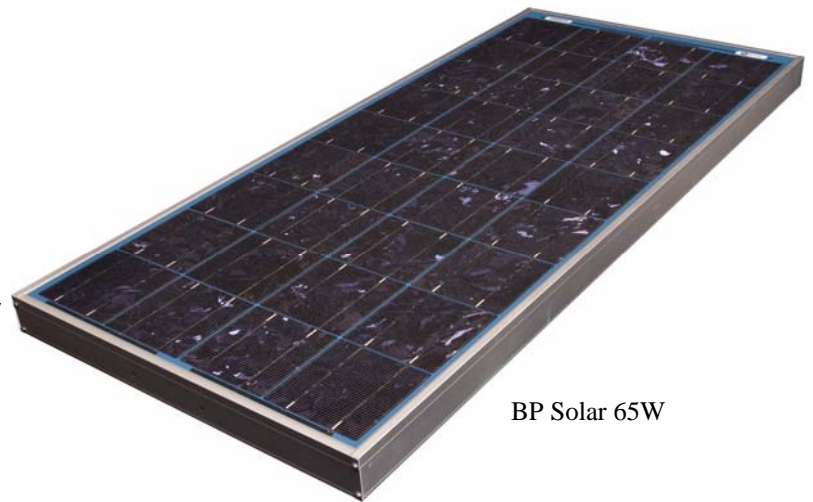


Solar panels enable you to have power wherever you are! Silently and efficiently they convert daylight to energy for your batteries whether that's on a motorhome, yacht or at a remote site for professional uses such as monitoring. Choose from our range of leading brands: BP Solar framed panels, SunWare & Spectra semi & fully flexible units. Combine with a windcharger for 24 hour charging capability.



BP Solar Framed PV Modules

- ◆ Designed for battery charging at permanent installations on professional field equipment and homes
- ◆ Efficient BP Solar polycrystalline cells
- ◆ Available in 5 W to 135 W models.
- ◆ Durable 50 mm aluminium frames with tempered glass.
- ◆ BP Solar performance warranties up to 25 years (see Individual data sheets).
- ◆ Blocking diodes may be necessary depending on system



BP Solar 65W

Blocking Diodes - for PV panels

Low loss Schottky diodes minimise voltage drop. A diode is required when there is no regulator fitted to prevent reverse current in darkness. (Built-in SunWare & Spectra modules) Diodes may also be required when installing multiple solar panels in parallel or series. Please call to discuss.

8A Diode **Part No: 913-012 £3-50**

5A Diode Kit **Part No: CA-11/01 £4-85**

PV Module Type:	Dimensions: (mm)	Weight: (kg)	Part No:	Price:
BP 3135-135W peak	1510x674x50	12	CA-10/12	£665-95
BP 3125-125W peak	1510x674x50	12	CA-10/44	£616-95
BP 380J-80W peak	1204x537x50	9.5	CA-10/42	£411-95
BP 365J-65W peak	1111x502x50	7.2	CA-10/08	£362-95
BP 350J-50W peak	839x537x50	6.0	CA-10/03	£293-95
BP 340J-40W peak	655x537x50	5.8	CA-10/13	£254-95
BP SX330J-30W peak	594x502x50	3.9	CA-10/02	£210-95
BP SX320J-20W peak	424x502x50	3.0	CA-10/11	£176-95
BP SX 10U-10W peak	424x273x50	1.9	CA-10/06	£100-95
BP SX305M M/M-5W peak	269x245x23	0.8	CA-10/10	£78-95



Sunware PV panels have the highest power output to surface area ratio of semi-flexible panels on the market. They have a 39 or 40 cell build so they run cooler and perform better in shade thus producing more power per day than 36 cell panels.

- ◆ Ideal for charging on board yachts, narrow boats & motor-home roofs.
- ◆ Flex up to 3% of their length.
- ◆ Marine Grade V4 stainless steel base .
- ◆ Structured Teflon anti-slip walk on surface.
- ◆ 3m integral cable with in line diode.
- ◆ Superior performance, especially at low light levels.
- ◆ Edge protection strip available factory fitted on ordering

Compact Panels with 39 cells are available in 48W (shown front) & 69W.



Standard Panels with 40 cells
36W & 24W shownn.



Adhesive



Edge & Mid Mounting Clips - Mid to join 2 panels

PV Module Type:	Dimensions: (mm)	Weight: (kg)	Part No:	Price:
SW Standard 70 70W peak	638x891x5	6.1	CA-10/70	£636-95
SW Compact 69, 69W peak	600x890x5	5.4	CA-10/69	£626-95
SW Compact 48, 48W peak	780x460x5	3.5	CA-10/68	£508-95
SW Standard 36, 36W peak	459x638x5	4.4	CA-10/67	£381-95
SW Standard 24, 24W peak	459x467x5	3.3	CA-10/66	£318-95
Edge protection strip - fitted by Marlec upon request		N/A	CA-12/29	£8-80/m
Adhesive (also for Spectra Panels)	N/A	N/A	CA-12/26	£ 12-50
Edge Mounting Clips (4 pieces)	N/A	N/A	CA-12/24	£ 12-50
Mid Mounting Clips (2 pieces)	N/A	N/A	CA-12/25	£ 11-50

All prices include VAT

For advice call +44 (0)1536 201588

8 Spectra Flexible & Semi-Flexible PV Modules

Spectralite Semi-flexible PV Modules

Perfect for keeping batteries topped up whilst you are away to prevent deep discharge and prolong battery life.



- ◆ Lightweight and easy to use 12V solar panels, ideal for maintaining and replacing natural battery discharge in leisure applications.
- ◆ Robustly constructed with fibreglass base and Tedlar™ cover.
- ◆ Sealed junction box houses blocking diode.
- ◆ 3m integral cable supplied.
- ◆ Can be flexed by 1cm per 30cm for fixing to curved surface such as a coach roof.
- ◆ Can be walked on with deck shoes.
- ◆ Manufactured exclusively for Marlec.



Spectralite 5W, 10W & 19W

Spectraflex Flexible PV Modules

Flexible amorphous silicon technology which is highly responsive to low light levels. Deploys conveniently on board on the curved surface of a boom or flat on a roof. Easy to store rolled up.



- ◆ Shadow tolerant cell structure
- ◆ Cushioned backing
- ◆ Rolls up to 30 cm diameter
- ◆ Durable construction
- ◆ Built-in diode and 3m cable

CA-10/33



Sunsei 2W Dashboard PV panel

Sunsei 150 12V A small rigid amorphous panel that can be placed on the car dashboard and plugged into the cigar lighter to trickle charge the battery. Indoor use only.



Keeping your battery topped up.

Expensive batteries deserve to be cared for. A small solar panel will replace natural discharge throughout the year. A ratio of 10W of solar PV panel to every 100Ah of battery capacity is needed to achieve this in the UK. At this ratio NO solar regulator is required and the PV panel can be joined directly to the battery. Simply scale this minimum ratio according to battery capacity. When adding more solar panels for increased and more rapid charging a solar regulator is recommended.

PV Module Type:	Dims: (mm)	Wt: (kg)	Part No:	Price:
Spectralite 20, 19W	622x508x3	1.74	CA-10/32	£149-95
Spectralite 10, 10W	356x508x3	1.06	CA-10/31	£ 91-95
Spectralite 5, 5W	356x267x3	0.62	CA-10/30	£ 63-95
Spectraflex 32, 32W	1429x424x5	2.14	CA-10/33	£342-95
Sunsei SE 150 2W	475x165x50	0.86	CA-10/35	£ 34-50

- ◆ Connect between solar panel & battery to prevent overcharge & provide deep discharge protection.
- ◆ All regulators are diode protected to prevent reverse current in darkness & allow other charge sources to same battery.
- ◆ 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. eg 65W/12V = 5.4Amps

Steca Solsum range



Steca PR range



Steca Range

- ◆ Automatic selection of voltage- 12/24 V
- ◆ Pulse Width Modulation (PWM) shunt charge regulation
- ◆ Overvoltage protected
- ◆ Overdischarge protection and auto-reconnection
- ◆ Temperature compensated regulation
- ◆ PR & Tarom range have LCD display with State of Charge display, Amp hour counter, Voltage & currents. Push button field adjustable parameters plus more- see data sheet

Model:	Operating Voltage	Max Rated Current:	Part No:	Price:
Solsum 6.6C	12/24 Volts	6 Amps	CA-11/32	£29-95
Solsum 8.8C	12/24 Volts	8 Amps	CA-11/33	£ 48-95
Steca PR1010	12/24 Volts	10 Amps	CA-11/37	£ 83-95
Steca PR1515	12/24 Volts	15 Amps	CA-11/34	£ 97-95
Steca PR2020	12/24 Volts	20 Amps	CA-11/35	£114-95
Steca PR3030	12/24 Volts	30 Amps	CA-11/36	£137-95
Tarom 45A	12/24 Volts	45 Amps	CA-11/31	£242-95

Morningstar Sun saver 10 SSL



Morningstar Sunlight 10A 12 V



Morningstar Sun saver Duo



Morningstar Remote Meter

Morningstar Range **NEW FOR 2009**

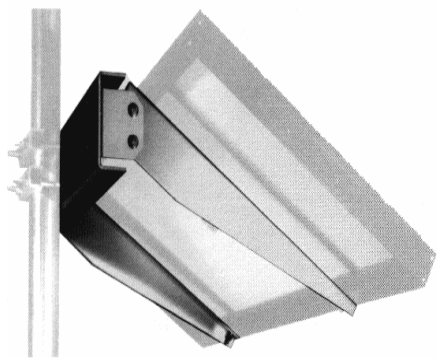
- ◆ 12 V regulators
- ◆ PWM
- ◆ Overvoltage, reverse polarity & overcurrent protected
- ◆ Single bank (SunSaver) or dual bank (SunSaver Duo) regulation
- ◆ Sunlight controller for programmable lighting
- ◆ Remote meter option for all models has digital display for voltage, current, temperature and error report

Model:	Operating Voltage	Max Rated Current:	Part No:	Price:
Morningstar SunSaver SS-10	12 Volts	10 Amps	CA-11/38	£ 58-95
Morningstar SunSaver Duo SSD-25	12 Volts	25 Amps	CA-11/	£94-95
Morningstar Remote Meter	12 Volts	25 Amps	CA-11/	£79-95
Morningstar Sunlight SL-10	12 Volts	10 Amps	CA-11/29	£ 83-95

All prices include VAT

For advice call +44 (0)1536 201588

10 Solar Mounting Kits & Batteries



Solar Mounting Kits

Mounting brackets for pole or wall mounting single framed solar panels. User adjustable for optimal tilt angle and supplied with fasteners. Multiple module mounting kits are available to order, please call.

U-bolts for pole mounting are available-see list below.

Description	Part No:	Price:
Solar Mtg Kit for BP SX 5/10	CA-12/28	£ 43-50
Solar Mtg Kit for BP SX 20/30	CA-12/10	£ 56-95
Solar Mtg Kit for BP340U	CA-12/27	£ 92-95
Solar Mtg Kit for BP350/380U	CA-12/14	£102-95
Solar Mtg Kit for BP365U	CA-12/11	£ 92-95
M8 U-bolt 50 mm (x 2 required)	808-017	£ 3-10
M8 U-bolt 65 mm (x 2 required)	808-027	£ 3-10
M12 U-bolt 116 mm (x 2 required)	812-006	£ 6-80

12 Volt Deep Cycle Sealed Batteries

- ◆ **AGM** and **Gel** deep cycle batteries are both sealed and maintenance free. They are designed to suit different application and system requirements. Call our technical team to discuss.
- ◆ **Absorbed Glass Mat (AGM)** batteries are a quality alternative to the traditional “wet” lead-acid ranges. They are very robust and so 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 are ideal for leisure applications. 3-5 year expected life.
- ◆ **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 in professional applications. > 5 year expected life.
- ◆ Many more sizes and battery specifications are available upon request.
- ◆ Choose battery capacity depending on charge input and electrical loads. Connect 2 or more in parallel to increase Ampere hours (Ah) capacity, or series to increase voltage, ie to 24V.



A G M Batteries

Ah Rating:	Part No:	Price:
33	CA-17/21	£ 58-95
55	CA-17/20	£ 97-95
70	CA-17/23	£117-95
80	CA-17/19	£137-95
100	CA-17/24	£146-95
120	CA-17/26	£171-95
135	CA-17/25	£215-95
160	CA-17/28	£254-95
200	CA-17/29	£293-95

Gel Batteries

Ah Rating:	Part No:	Price:
33	CA-17/36	£ 75-50
55	CA-17/32	£121-50
70	CA-17/01	£143-95
80	CA-17/37	£166-50
100	CA-17/33	£190-95
120	CA-17/38	£215-50
135	CA-17/35	£259-95
160	CA-17/39	£283-95
200	CA-17/40	£347-95

DC - AC Inverters - can be used for euro or UK plug types

- ◆ Conveniently converts your 12/24V DC battery power to 230V AC for lights, TV, radio, DVD, etc.
- ◆ Select inverter according to maximum rated power of appliances to be operated simultaneously.
- ◆ **Modified sinewave** types are ideal for a majority of appliances such as power tools and non-digital hardware, non-fluorescent lamps.
- ◆ **Pure sinewave** types are designed for sensitive equipment including fluorescent lamps, LCD's, appliances with motors and other devices.

CA-14/41



CA-14/42



CA-14/44



CA-14/45



Modified Sinewave

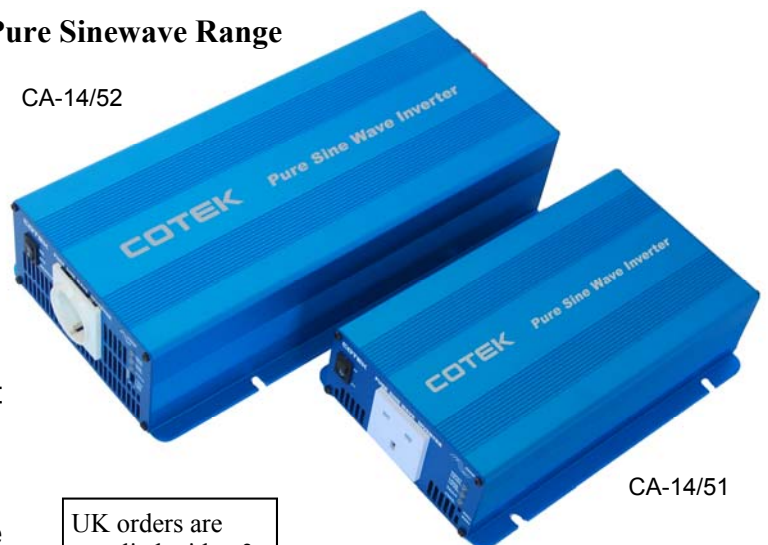
Model	Voltage	Power Output	Surge Output	Part No	Price
GP-12-150	12 V	150 W	450 W	CA-14/41	£ 29-50
GP-12-300	12 V	300 W	1000 W	CA-14/42	£ 39-50
GP-24-300	24 V	300 W	1000 W	CA-14/42X	£ 42-50
GP-12-600	12 V	600 W	1500 W	CA-14/43	£ 61-95
GP-24-600	24 V	600 W	1500 W	CA-14/43X	£ 68-50
GP-12-1000	12 V	1000 W	2500 W	CA-14/44	£127-95
GP-24-1000	24 V	1000 W	2500 W	CA-14/44X	£137-95
GP-12-1500	12 V	1500 W	2500 W	CA-14/45	£225-50

Pure Sinewave

Model	Voltage	Power Output	Surge Output	Part No	Price
S-600-212	12 V	600 W	800 W	CA-14/51	£277-95
S-1500-212	12 V	1500 W	2000 W	CA-14/52	£513-95
S-1500-224	24 V	1500 W	3000 W	CA-14/52X	£513-95
S-3000-212	12 V	3000 W	6000 W	CA-14/53	£968-95
S-3000-224	24 V	3000 W	6000 W	CA-14/53X	£968-95

Pure Sinewave Range

CA-14/52



CA-14/51

- ◆ Please check your appliance power output (Watts) before choosing your inverter.
- ◆ Some modern TV sets may need a pure sinewave inverter. Ask your vendor.
- ◆ Inverters draw power when no devices are running from them. (Quiescent load)

UK orders are supplied with a 3-pin socket adaptor



Cable and Connectors

- ◆ Cable for up to 20m run for Rutland 504, 913, FM910-3 & PV Panels
2 core Red/Black x 2.5mm² **Part No: 902-015** **£1-60/metre**

- ◆ Clip-on Battery Terminals colour-coded pair Red & Blue
Part No: 901-030 **£11-95**



- ◆ Plug & Socket cable connector, latching with strain relief, 6A. 2 Way Plug & Socket Kit **Part No: CA-11/02** **£7-80**
- ◆ Plug & Socket cable connector, latching with strain relief, 6A. 3 Way Plug & Socket Kit **Part No: CA-11/03** **£8-80**

12V Dusk to Dawn Sensor

Ideal for use with outdoor security lighting, this adjustable photosensitive cell will switch any 12V DC load up to 5A for night time use. A built in sensor disconnects the load in the event of low battery volts. The housing is IP66 rated for all weather installation. Dims: 92x120x55mm

Part No: CA-20/02 **£88-95**



Passive Infra-Red Switch Unit

Adjustable outdoor 12V PIR with control switch unit. IP55 rated and with a range of 8 to 35 metres, the PIR detects motion and activates a switch within the separately supplied control unit which can be connected to 12V 5A maximum load eg. lighting

Part No: CA-20/01 **£117-95**

12V LCD Digital Timer Unit

A useful 12V programmable digital timer for the convenience of on/off switching in DC systems. Minimises energy consumption to conserve battery power. Simple to install and use. Up to 8 on/8 off settings per day. Can be used in daily, 7 day week, 5 day week and weekend modes. 500 hour built in back-up. Incorporates 10A change over relay for load switching. Can be surface or DIN rail mounted. Dims: 36x85x50mm

Part No: 933-013 **£68-95**



Ammeters & Voltmeters

Panel mounted analogue meters with circular cut out at rear for system monitoring.



Ammeters:	Part No:	Dimensions:	Price:
0-5 A	915-001	83x68mm	£19-25
0-10 A	915-002	83x68mm	£19-25
0-15 A	915-010	83x68mm	£19-25
0-50 A	915-014	47x60mm	£17-25
0-10 A	915-015	47x60mm	£17-25



Voltmeters:	Part No:	Dimensions:	Price:
0-15 V	915-016	47x60mm	£17-25
0-20 V	915-012	83x68mm	£37-25
0-40 V	915-013	83x68mm	£37-25



Cello Dual Voltage 12 V / 240 V Digital TV & DVD Player with Inbuilt Freeview

- ◆ A convenient dual voltage TV for home & leisure that has a built in DVD player and digital tuner.
- ◆ Flat 15.4 inch widescreen
- ◆ Side load DVD player
- ◆ HD ready
- ◆ Scart socket for connectability
- ◆ 7 Days Electronic Program Guide
- ◆ Use freestanding or wall mountable
- ◆ Lightweight and ideal for Motorhomes, Caravans, Yachts, Narrowboats & HGVs

Part No : CA-40/01

£289-95

NEW FOR 2009

Low Voltage Bulb

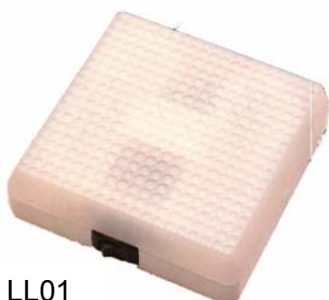


926-011

- ◆ Mains quality illumination from a low energy lamp running from a 12V battery
- ◆ High performance CFL lamps draws just 11W
- ◆ Light output similar to 60W incandescent bulbs
- ◆ Soft white colour illumination
- ◆ High reliability of more than 100,000 switching cycles.
- ◆ Standard Edison E27 type screw fitting.

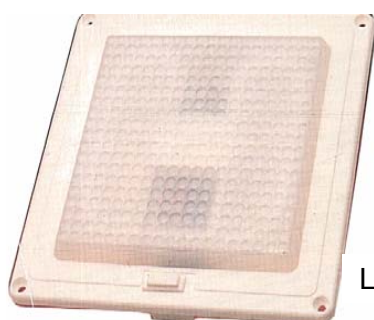
Leisurelights

Compact double biax type: Part No: 926-011 £9-75
Batten type lamp holder: Part No:926-009 £3-95



LL01

- ◆ Complete lamp fittings ready to install with built-in switches
- ◆ Simply connect to the 12V battery circuit for a mains quality of illumination not normally found in 12V lamps
- ◆ Low energy consumption 2D fluorescent tube in LLO1-03 draws just 12W light output similar to 75W bulb
- ◆ 10W Halogen lamp gives light output in LL05 model similar to 60W
- ◆ Ideal for boats, caravans, homes, outbuildings.



LL02



926-001



LL03



LL05

Model:	Leisurelight Type:	Dims:(mm)	Part No:	Price:
LL01	Square 2D Surface Mount	155x155x38	CA-99/01	£28-50
LL02	Square 2D Recess Mount	200x200x18(38)	CA-99/02	£32-50
LL03	Brass 2D Surface Mount	215diax50	CA-99/03	£48-95
LL05	Brass Halogen Surface Mount	150diax35	CA-99/05	£27-50
	Spare 2D Tube (4 pin)		926-001	£ 6-80
	Spare 10W Halogen Bulb		926-002	£ 3-90

All prices include VAT

For advice call +44 (0)1536 201588

Green Column

Green Column - Marlec's Wind & Solar Powered Independent Lighting System

- ◆ Independent outdoor lighting system needs no mains supply, simply uses the free power available in wind and sun.
- ◆ Now with new long lasting LED Lamp positioned at 5M
- ◆ Ideal for foot/cycle paths, car parks, countryside roads, etc.
- ◆ Environmentally friendly alternative to mains street lamp.
- ◆ Ground-works are minimal as trenching is not required.
- ◆ System includes column, Windcharger, solar panel, lamp assembly, maintenance-free sealed battery, controller & wiring harness.
- ◆ Fitted with new digital fully programmable timer unit.
- ◆ Automatic night time switch-on.
- ◆ Select Rutland Windcharger & Solar Panel depending on site location.
- ◆ 8 Metre column raise & lowers for safe working at ground level.
- ◆ Installation Service available please call for a quotation.
- ◆ Anti-Climb Bracket available to order.



Green Column – 913 & 30W PV	CA-16/01	£2911-95
Green Column – FM910-3 & 30W PV	CA-16/02	£2989-95
Green Column – 913 & 65W PV	CA-16/03	£3126-98
Green Column – FM910-3 & 65W PV	CA-16/04	£3210-50

Above:
A specially manufactured Green Column installed at the successful British Olympic Bid site.

Right:
Views of existing sites, the easy and safe erection of a Green Column and the recent development of the LED luminaire.



Green PowerEd Systems



Senior Green PowerEd

- ◆ Educational renewable energy kits.
- ◆ Ideal for science, environmental and technology activities.
- ◆ Simple and safe to install and use.
- ◆ Range of systems to suit education levels and budgets.
- ◆ Compatible with National Curriculum attainment targets and statutory requirements in Science at Key Stages 1 - 5
- ◆ Compatible with National Curriculum opportunities to use ICT, particularly data logging (only Graduate PowerEd enables continuous computer generated logging).

Junior Green PowerEd **Part No: CA-19/01 £ 949-95**

Senior Green PowerEd **Part No: CA-19/02 £1321-95**

Graduate Green PowerEd **Part No: CA-19/03 £2084-95**

Junior Kit includes:-

- ◆ Rutland 504 Windcharger
- ◆ 30W Solar Panel & Mounting Kit
- ◆ Junior Power Monitor
- ◆ 70Ah 12V Deep Cycle Sealed Battery
- ◆ 50m Cable, Connectors & Battery Clips

Senior Kit includes:-

- ◆ Rutland 913 Windcharger
- ◆ 65W Solar Panel & Mounting Kit
- ◆ Senior Power Monitor
- ◆ 2 x 70Ah 12V Deep Cycle Sealed Batteries
- ◆ 50m Cable, Connectors & Battery Clips

Graduate Kit includes:-

- All the Senior Kit plus:-
- ◆ Graduate Power Monitor
- ◆ Weather sensors with fixing bracket & cables
- ◆ Software for digital display of all parameters & datalogging
- ◆ Cable & connections for data & computer links included
- ◆ Optional wind direction vane kit.

Graduate Software :-

- ◆ Enables continuous on screen reading of measured datas.
- ◆ Enables data to be converted to on screen graphs and tables.
- ◆ Enables calculated parameters to be logged
- ◆ Adaptable for datalogging activities from Key Stage 2 to Key Stage 5.

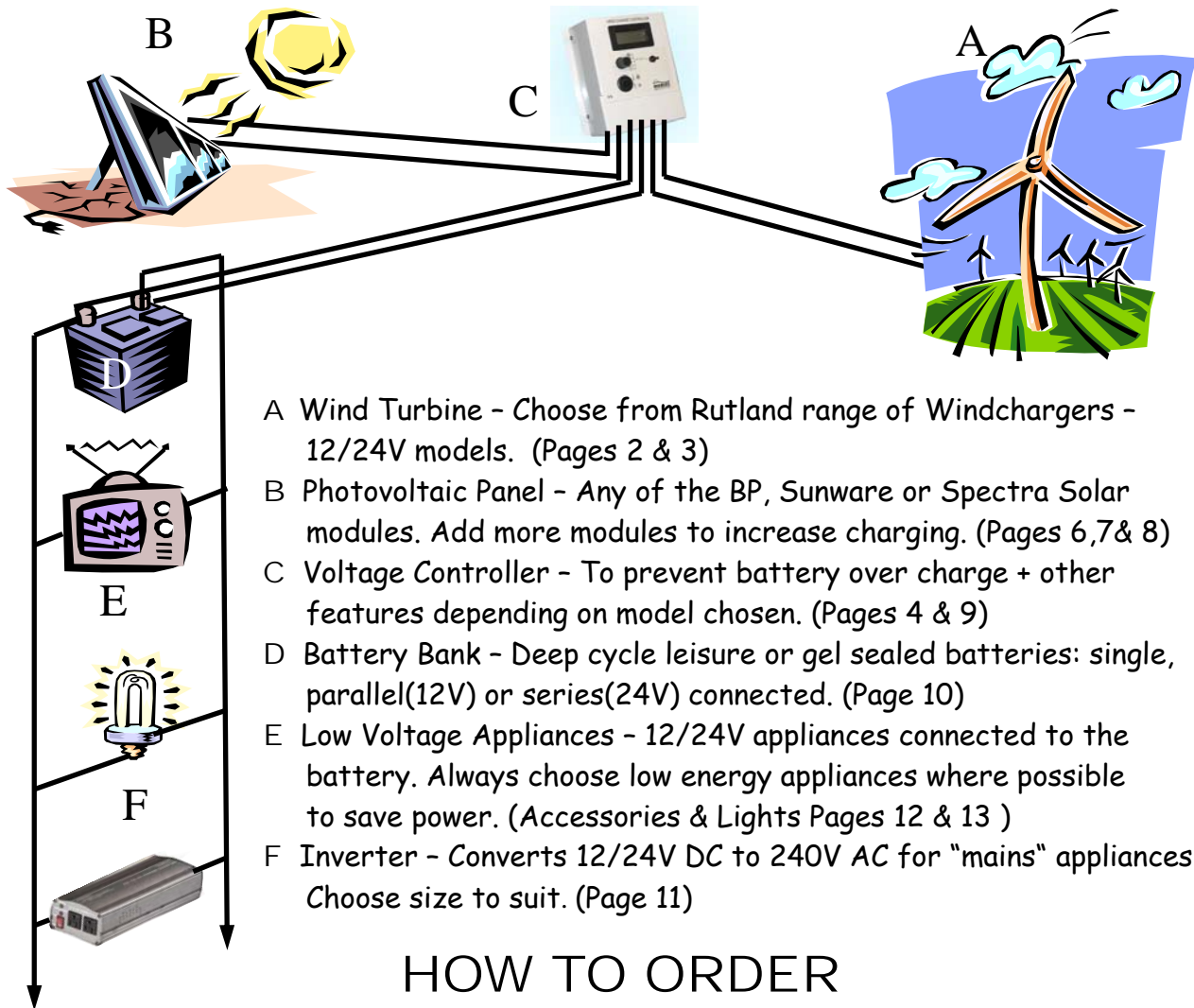


Junior Green PowerEd



Left : Graduate Software & optional wind vane





- A Wind Turbine - Choose from Rutland range of Windchargers - 12/24V models. (Pages 2 & 3)
- B Photovoltaic Panel - Any of the BP, Sunware or Spectra Solar modules. Add more modules to increase charging. (Pages 6,7& 8)
- C Voltage Controller - To prevent battery over charge + other features depending on model chosen. (Pages 4 & 9)
- D Battery Bank - Deep cycle leisure or gel sealed batteries: single, parallel(12V) or series(24V) connected. (Page 10)
- E Low Voltage Appliances - 12/24V appliances connected to the battery. Always choose low energy appliances where possible to save power. (Accessories & Lights Pages 12 & 13)
- F Inverter - Converts 12/24V DC to 240V AC for "mains" appliances. Choose size to suit. (Page 11)

HOW TO ORDER

“Our expertise in small-scale renewable energy systems since 1979 is second to none and we hope we can be of service to you, offering the best quality products and good value for money”

Technical Advice: Full colour technical brochures are available for most of our products or visit our website for more information. Our technical sales team will be pleased to discuss the details of your system requirements and confirm availability of your order. Contact e- mail :sales@marlec.co.uk or call **01536 201588**.

Placing an Order: Please call 01536 201588 or email : sales@marlec.co.uk.
For Web Sales www.marlec.co.uk. **NEW FOR 2009**

Payment: We accept most bank debit and credit cards, VISA and MASTERCARD, or bank transfer to our account. Cheques must be cleared in advance of goods being dispatched.

Prices: Pounds Sterling. Prices include VAT @ 15%. Prices are correct at the time of publication and are held for 2009 wherever possible but may be subject to change without notice.

Carriage: Charged at cost according to weight, location and service. Please call for a quotation.

Specifications: Owing to continuous product improvement these may be subject to change without notice.

Marlec Engineering Co Ltd
Rutland House, Trevithick Road, Corby, Northants. NN17 5XY UK
sales@marlec.co.uk www.marlec.co.uk