Photonic Universe

www.photonicuniverse.com

SOLAR POWER PRODUCTS

Why choose us?

- ✓ **Over 15 years of experience in solar, wind and energy storage solutions**
- ✓ **Strong team of technical experts**
- ✓ **Trusted supplier with a proven track record across 150+ industries and types of applications**
- ✓ **Extensive range of more than 500 highly specialised products**

Photonic Universe is one of the leading UK suppliers of solar panels, wind turbines, battery charging solutions and associated products. We supply solar, wind and energy storage systems for residential, commercial, off-grid, transport, security and other markets and applications.

Our product range includes fully flexible solar panels, semi-flexible solar panels, rigid frame solar panels, solar charge controllers, off-grid, hybrid and grid-tie inverters and inverter-chargers, wind turbines, wind charge controllers, batteries, ESS systems, chargers, power monitoring equipment, portable solar and energy storage kits, accessories and complete renewable energy systems.

With innovative technologies, outstanding product and service quality standards as well as very competitive prices, Photonic Universe products have been the primary choice for hundreds of thousands of systems and projects in the UK for both residential and commercial sectors.

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Fully flexible SELM solar panels

Our fully flexible SELM solar panels are TUV-certified and manufactured in Sweden to the highest European quality standards. They are constructed using CIGS (Copper Indium Gallium Selenide) thin-film technology for maximum flexibility and performance under mechanical stresses.

These products are lightweight and ideal for applications requiring flexibility and adaptability, such as curved surfaces and modern architectural and industrial projects. They are also a superior choice for all types of transport applications.

Product code SELM3-245

Product features

- Incredibly robust and long-lasting technology with 10 years product warranty and 25 years performance warranty.
- Shatterproof and crackproof – these modules are truly flexible, truly walkable, and do not suffer from microcracks from mechanical impact like crystalline solar panels.
- Up to 10-20% higher annual energy yields due to superior shading performance. With bypass diodes for every cell, they significantly outperform standard solar panels in shaded conditions.
- The most sustainable solar panels in the industry. With only 4-6 g/kWh of CO_2 emissions during the production and lifecycle of these solar panels compared to 40-60 g/kWh for standard crystalline solar panels, they are responsible for only 10% of CO_2 emissions of standard solar panels.
- Strong self-adhesive at the back makes it very quick and easy to install these modules, and makes them suitable for a very wide range of surfaces including bitumen roofs and roofing felts.
- Lightweight (90% less than standard modules) and aesthetically pleasing on the roof.

Product Code	Description	Size (mm)	Power (W)	Vmp (V)	Voc (V)
SELM2-80	80W flexible solar panel (LV)	2129 x 358	80	12.1	15.2
SELM3-120	120W flexible solar panel	2129 x 516	120	18.2	22.8
SELM2-125	125W flexible solar panel	3077 x 358	125	18.9	22.9
SELM3-185	185W flexible solar panel	3077 x 516	185	27.3	34.2
SELM2-165	165W flexible solar panel	4025 x 358	165	25.0	30.4
SELM3-245	245W flexible solar panel	4025 x 516	245	36.4	45.6
SELM6-240	240W flexible solar panel	2001 x 1000	240	37.4	45.7
SELM8-270	270W flexible solar panel	1685 x 1298	270	41.5	50.7
SELM8-320	320W flexible solar panel	2001 x 1298	320	49.9	60.9
SELM-500	500W flexible solar panel *	2583 x 1292	500	60.2	75.1

* This model is manufactured in China. The other models in this range are manufactured in Sweden.

Semi-flexible FLPRO textured solar panels

Manufactured in Austria to the highest quality standards (IEC certified), our FLPRO series of hard-wearing semi-flexible solar panels are the most reliable and sturdy crystalline solar panels available on the UK market. With an exceptional track record of long-term performance and reliability they achieved for our customers, these solar panels are a robust choice for any off-grid or grid-tie applications which require lightweight solutions or need mounting on a curved surface.

The solar panels from the FLPRO range are also available with the junction box on the back (underside) of the solar panel (FLPROJBB), for a completely flush mount on the surface, with no cables or cable entry holes visible. This is the perfect solution if a completely flat boat deck or campervan roof is required, or if the solar system is integrated into a building roof.

Product code FLPRO-330M

Product code FLPROSL-170M

Product features

- High resistance to salt water environments with a sealed waterproof design
- All models are incredibly lightweight and thin – only 2mm
- Special plastic reinforced with fibreglass makes them sturdy and durable, so the panels can be walked on in soft shoes when mounted on a rigid surface

Solar panels can be custom-manufactured with eyelets and fasteners

The textured surface design maximises light absorption and reduces light reflection

Product Code	Description	Size (mm)	Weight (kg)
FLPRO-160M	160W semi-flexible solar panel with adhesive	1434 x 699 x 2	3.3
FLPROSL-170M	170W narrow semi-flexible solar pane	1917 x 548 x 2	3.7
FLPRO-180M	180W semi-flexible solar panel with adhesive	1595 x 699 x 2	3.7
FLPRO-210M	210W semi-flexible solar panel with adhesive	1274 x 1020 x 2	4.2
FLPRO-240M	240W semi-flexible solar panel	1434 x 1020 x 2	4.8
FLPRO-270M	270W semi-flexible solar panel	1595 x 1020 x 2	5.3
FLPRO-300M	300W semi-flexible solar panel	1756 x 1020 x 2	6.0
FLPRO-330M	330W semi-flexible solar panel	1917 x 1020 x 2	6.5
FLPROJBB-240M	240W semi-flexible solar panel with the rear JB	1434 x 1020 x 2	4.9

FLPROJBB-270M	270W semi-flexible solar panel with the rear JB	1595 x 1020 x 2	5.4
FLPROJBB-300M	300W semi-flexible solar panel with the rear JB	1756 x 1020 x 2	6.0
FLPROJBB-330M	330W semi-flexible solar panel with the rear JB	1917 x 1020 x 2	6.5

MCS certified semi-flexible solar panels

Our FMCS range of MCS-certified semi-flexible panels - engineered for top-tier performance and versatility. Lightweight and ultra-flexible at just 3.9kg per square meter, they are 70% lighter than conventional modules, making them ideal for roofs with weak load-bearing capacities, such as corrugated metal or curved surfaces. With advanced PERC and half-cut silicon wafer technology, these MCS-certified panels deliver up to 200W/m^2, offering exceptional energy density while maintaining adaptability. Their lightweight design eliminates the need for costly structural reinforcements, making them a practical choice for a wide range of roof-top and off-grid applications, including commercial and industrial buildings, warehouses, architectural roofs, solar carports, glamping pods, vehicles, and boats.

Product code FMCS-530M

MCS certification guarantees that these solar panels meet rigorous quality and performance standards, ensuring reliability, consistent energy generation, and proven resistance to harsh conditions, including sand, salt mist, and hail. The certification also ensures compatibility with the available green energy financial incentives for exporting the energy into the grid.

For those seeking both aesthetics and efficiency, FMCSB “all-black” panels provide a sleek, seamless design with uniform pure black tones. Their striking appearance complements contemporary architectural styles, enhancing any roof while delivering dependable energy solutions. The range of FMCS solar panels also features the 530W model – a project solution that provides excellent energy density and ensures quick installation even across large roof areas.

Product Code	Description	Vmp (V)	Voc (V)	Size (mm)	Weight (kg)
FMCSB-210M	210W black semi-flexible MSC certified solar panel	16.52	20.08	1476 x 770 x 3.4	4.6
FMCSB-250M	250W black semi-flexible MSC certified solar panel	20.23	24.85	1756 x 770 x 3.4	5.6
FMCS-350M	350W semi-flexible MSC certified solar panel	27.47	33.17	1571 x 1137 x 3.4	7.4
FMCS-440M	440W semi-flexible MSC certified solar panel	34.48	41.73	1940 x 1137 x 3.4	9.0
FMCS-530M	530W semi-flexible MSC certified solar panel	41.35	49.90	2312 x 1137 x 3.4	10.5

Semi-flexible ARFLX reinforced solar panels

Our highly innovative ARFLX series of semi-flexible solar panels are reinforced with anodised aluminium and a strong ETFE surface for maximum strength and durability. Their high efficiency monocrystalline solar cells boast excellent performance in low-light conditions.

Thanks to their unique 7-layer construction featuring an embedded sheet of anodised aluminium fully encapsulated within the solar panel, the ARFLX series solar panels have a very robust construction and strong mechanical design.

For dark coloured vehicles, roofs and boats, we offer certain ARFLX models in black with no white edges for discreet installation.

Product code ARFLX-60M

Product code ARFLXNR-80M

Product features

- High resistance to salt water environments with a sealed waterproof design
- Anodised aluminium reinforcement and strong ETFE plastic give ARFLX panels a longer service life compared to standard semi-flexible solar panels
- Anti-reflective textured surface for maximum capture of angled light in the morning, afternoon and during cloudy weather
- All models are incredibly lightweight and thin – only 4mm
- Durable and hard-wearing panel that can be walked on in soft shoes when mounted on rigid surfaces.

Product Code	Description	Size (mm)	Weight (kg)
ARFLX-20M	20W reinforced semi-flexible solar panel	450 x 350 x 4	1.10
ARFLX-30M	30W reinforced semi-flexible solar panel	505 x 400 x 4	1.35
ARFLXSC2-30M	30W ultra narrow reinforced semi-flexible solar panel	970 x 200 x 4	1.25
ARFLXSC2-50M	50W ultra narrow reinforced semi-flexible solar panel	1540 x 200 x 4	1.75
ARFLXNR-50M	50W narrow reinforced semi-flexible solar panel	880 x 350 x 4	1.95
ARFLX-60M	60W reinforced semi-flexible solar panel	720 x 505 x 4	2.35
ARFLX-80M	80W reinforced semi-flexible solar panel	730 x 665 x 4	3.10
ARFLXNR-80M	80W narrow reinforced semi-flexible solar panel	1365 x 350 x 4	3.05
ARFLXSLB2-100M	100W black reinforced semi-flexible solar panel	1060 x 510 x 4	3.15

Semi-flexible FLAX and FLPROC textured solar panels

Our cutting-edge FLAX and FLPROC textured series semi-flexible solar panels are highly durable and reinforced with special composite materials for long-term stable performance. They are made from the latest generation monocrystalline solar cells and are coated with the durable ETFE film.

These solar panels have a higher degree of flexibility compared to other models in our range. They are an excellent choice for a wide range of off-grid applications, including highly curved roof surfaces on leisure vehicles, marine, boats, various pods, and similar structures. These models are often the preferred choice for vehicle and boat builders and installers.

For dark coloured vehicles, roofs and boats, our FLAX models are all black and certain FLPROC models come in black with no white edges for discreet installation. These models can also feature the junction box and cables on the back (underside) of the solar panel to create a perfectly flat mounting surface after fitting the solar panel, with no exposed cables or junction boxes (product codes with 'BJB' and 'JBB').

Product code FLAXNRB2-100M

Product code FLPROCBJB-200M

Product features

- A robust construction using plastic reinforced with composite materials creates sturdy, durable solar panels
- The special textured surface significantly reduces light reflection and improves performance in low light and cloudy conditions
- The highly flexible design makes these panels ideal for curved roofs and surfaces where bonding is preferable
- These panels are incredibly lightweight and very thin – only 3mm
- High resistance to salt water environments makes them perfect for boats and marine applications

Product Code	Description	Size (mm)	Weight (kg)
FLAXSCB2-30M	30W black ultra narrow semi-flexible solar panel	970 x 200 x 3	0.63
FLAXSCB2-50M	50W black ultra narrow semi-flexible solar panel	1540 x 200 x 3	1.01
FLAXB-60M	60W black semi-flexible solar panel	730 x 505 x 3	1.19
FLAXNRB2-100M	100W black narrow semi-flexible solar panel	1520 x 350 x 3	1.72
FLAXB-120M	120W black semi-flexible solar panel	1025 x 665 x 3	2.19
FLAXSLB-130M	130W black slimline semi-flexible solar panel	1460 x 505 x 3	2.38
FLAXSLB2-150M	150W black slimline semi-flexible solar panel	1550 x 510 x 3	2.55
FLAXB-160M	160W black semi-flexible solar panel	1380 x 665 x 3	2.96
FLAXBJB-120M	120W black semi-flexible fibreglass solar panel with rear junction box	1000 x 665 x 3	2.14

FLAXBJB-160M	160W black semi-flexible fibreglass solar panel with rear junction box	1350 x 665 x 3	2.89
FLAXBJB-180M	180W black semi-flexible fibreglass solar panel with rear junction box	1470 x 665 x 3	3.15
FLAXBJB2-200M	200W black semi-flexible fibreglass solar panel with rear junction box	1500 x 680 x 3	3.65
FLPROC-100M	100W semi-flexible fibreglass solar panel	990 x 540 x 3	1.90
FLPROC-150M	150W semi-flexible fibreglass solar panel	1110 x 710 x 3	2.85
FLPROC-200M	200W semi-flexible fibreglass solar panel	1420 x 710 x 3	3.65
FLPROC-270M	270W semi-flexible fibreglass solar panel	1940 x 710 x 3	5.00
FLPROCJBB-150M	150W semi-flexible fibreglass solar panel with rear junction box	1080 x 710 x 3	2.68
FLPROCJBB-200M	200W semi-flexible fibreglass solar panel with rear junction box	1390 x 710 x 3	3.50
FLPROCJBB-270M	270W semi-flexible fibreglass solar panel with rear junction box	1900 x 710 x 3	4.75
FLPROCB-100M	100W black semi-flexible fibreglass solar panel	1010 x 540 x 3	1.90
FLPROCB-150M	150W black semi-flexible fibreglass solar panel	1110 x 710 x 3	2.85
FLPROCB-200M	200W black semi-flexible fibreglass solar panel	1420 x 710 x 3	3.65
FLPROCB-270M	270W black semi-flexible fibreglass solar panel	1940 x 710 x 3	5.00
FLPROCBJB-100M	100W black semi-flexible fibreglass solar panel with rear junction box	990 x 540 x 2	1.92
FLPROCBJB-150M	150W black semi-flexible fibreglass solar panel with rear junction box	1080 x 710 x 2	2.68
FLPROCBJB-200M	200W black semi-flexible fibreglass solar panel with rear junction box	1390 x 710 x 2	3.65
FLPROCBJB-270M	270W black semi-flexible fibreglass solar panel with rear junction box	1900 x 710 x 2	5.00

Rigid frame BST/SWG/SWB solar panels

The solar panels from our rigid frame BST/SWG/SWB range don't just meet the quality standards – they set them. Protected by a special reinforced glass and a strong frame made of anodised aluminium, these solar panels are a great choice for any off-grid applications and any weather and environmental conditions, including marine locations.

The SWB panels are bifacial solar panels featuring a transparent backsheet and advanced dual-sided solar cells to harness sunlight from both the front and rear surfaces in order to maximise the energy output. With the ability to produce up to 20% more power than standard solar panels, SWB panels offer unparalleled efficiency, ensuring you get the most out of every ray of sunshine.

Highly efficient with excellent low-light performance results, these solar panels come with an amazing track record in reliability endorsed by many years' worth of praise from thousands of our clients.

Product code SWG-120M

Product code SWG-50M

Product features

Product code SWG-200M

- High efficiency monocrystalline solar cells
- Tempered 3.2mm glass able to withstand severe weather, with a special surface to minimise light reflection
- SWG solar panels are fitted with two 90cm, and SWB fitted with two 60cm of single core solar cables with MC4-compatible connectors for minimum power losses
- Robust waterproof design with a strong anodised aluminium frame for all weather conditions, including marine applications

Product Code	Description	Size (mm)	Weight (kg)
BST-5M	5W solar panel	250 x 190 x 20	0.8
BST-10M	10W solar panel	340 x 240 x 20	1.2
BST-20P	20W solar panel[1]	490 x 350 x 25	2.5
BST-30P	30W solar panel[1]	505 x 445 x 25	3.2
SWG-40M	40W solar panel	630 x 400 x 25	2.7
SWG-50M	50W solar panel	510 x 580 x 25	3.2
SWG-80M	80W solar panel	800 x 580 x 30	4.9
SWG2-80M	80W solar panel	640 x 670 x 30	4.9
SWB-100M	100W bifacial solar panel	770 x 670 x 30	5.5
SWG-120M	120W solar panel	910 x 670 x 30	7.1
SWG-150M	150W solar panel	1120 x 670 x 30	8.0
SWG-200M	200W solar panel	1038 x 992 x 30	10.5
SWB-200M	200W bifacial solar panel	1480 x 670 x 30	10.5
SWB-250M	250W bifacial solar panel	1630 x 770 x 35	13.5
SWB-300M	300W bifacial solar panel	1650 x 880 x 35	15.5
SWB-400M	400W bifacial solar panel	1722 x 1134 x 30	21.0

[1] These solar panels are made of polycrystalline solar cells.

Standard rigid frame solar panels

SRP series

SHARP
Be Original.

High quality solar panels from the leading Japanese solar manufacturer Sharp, which has over 60 years of experience with solar technology and over 50 million solar panels installed all over the world.

These MCS-certified panels are perfect for a wide variety of applications, from grid-tie household systems to off-grid installations where mains power is limited.

Product code SRP-540M

LG series

The superior solar modules from the world-leading South Korean brand LG.

These panels include Cello Technology™ which enhances the efficiency and reliability of the solar panel by replacing the small number of wide busbars in standard solar panels with nine thin wires to reduce electricity losses and increase efficiency.

Product code LG-380MB

PHQ series

Thoroughly tested and manufactured to high standards, our PHQ solar panels are packaged individually for the most cost-effective courier delivery to end users where a small quantity of solar panels in a kit is required.

These solar panels are suitable both for off-grid and hybrid solar and solar + wind installations.

Product code PHQ-360M

Product Code	Description	Size (mm)	Weight (kg)
SRP-410M	410W Sharp NU-JC mono PERC solar panel	1722 x 1134 x 35	21.8
SRP-410B	410W Sharp NU-JC410B black mono PERC solar panel	1722 x 1134 x 30	21.8
SRP-430B	430W Sharp NU-JC430B black mono TOPCon solar panel	1722 x 1134 x 30	20.7
SRP-440B	440W Sharp NU-JC440 black mono TOPCon solar panel	1722 x 1134 x 30	20.7
SRP-540M	540W Sharp NU-JD mono PERC solar panel	2279 x 1134 x 35	27.8
SRP-585BF	585W Sharp NB-JD585 bifacial TOPCon solar panel	2278 x 1134 x 30	32.5
LG-380MB	380W Black LG NeON®2 mono solar panel Cello Technology™	1768 x 1042 x 40	18.5
PHQ-360M	300W monocrystalline solar panel (individually boxed)	1956 x 990 x 40	23.0

PWM and dual battery controllers

Our range of PWM and dual-battery solar charge controllers ensures optimal performance and reliability. Many models feature advanced communication options, including a remote meter (MT50), a Bluetooth module (EBOX-BT), or a Wi-Fi module (EBOX-WIFI). These allow for management and monitoring via a mobile app. Alternatively, the controllers can be connected to a PC or laptop using a special cable (PTR-USB) and managed through dedicated software.

Product code PU1024B

Product code PU1024BW

Our waterproof 10A and 20A solar charge controllers are ideal for boats and marine applications as they are IP66 rated.

Our dual battery controllers can monitor and regulate two independent batteries at the same time. An essential controller for charging a leisure battery and an engine battery.

Product code DB1024

Product code VS2048BN

Advanced settings range – high quality and reliable, these compact controllers offer monitoring and programming features for advanced users. Available for 12V, 24V, 36V and 48V solar power systems.

Premium range – designed and made in Italy with a full set of electronic protections and an LCD display to update the user on all information, as well as monitoring and programming features for advanced users. Available for 12V and 24V solar power systems, with a 5 year warranty.

Product code WREG30

	Product Code	Description	System voltage (V)	Dimensions (mm)
Standard range	PU0512EU	5A PWM controller	12	97 x 66 x 25
	PU1012EU	10A PWM controller	12	120 x 67 x 22
	PU1024B	10A PWM controller	12/24	140 x 70 x 40
	PU2024B	20A PWM controller	12/24	160 x 85 x 50
Waterproof range	PU1024BW	10A waterproof PWM controller	12/24	109 x 63 x 26
	PU2024BW	20A waterproof PWM controller	12/24	145 x 85 x 35
Dual battery range	DB1024	10A dual battery controller	12/24	155 x 76 x 40
	DB2024	20A dual battery controller	12/24	155 x 76 x 40
	PUDB-RM	Remote display for dual controllers	-	110 x 110 x 40

Advanced settings range	VS6024BN	60A advanced controller with LCD	12/24	205 x 130 x 70
	VS2048BN	20A advanced controller with LCD	12/24/36/48	205 x 120 x 70
	VS4548BN	45A advanced controller with LCD	12/24/36/48	200 x 105 x 60
USB output range	VS1024AU	10A advanced controller with LCD and USB ports	12/24	140 x 85 x 40
	VS2024AU	20A advanced controller with LCD and USB ports	12/24	160 x 95 x 50
	VS3024AU	30A advanced charge controller with LCD and USB port	12/24V	180 x 101 x 60
	VS3048AU	30A advanced charge controller with LCD and USB port	12/24/36/48V	180 x 101 x 60
	VS4524AU	45A advanced charge controller with LCD and USB port	12/24V	194 x 118 x 64
	VS4548AU	45A advanced charge controller with LCD and USB port	12/24/36/48V	194 x 118 x 64
	VS6024AU	60A advanced charge controller with LCD and USB port	12/24V	214 x 128 x 72
	VS6048AU	60A advanced charge controller with LCD and USB port	12/24/36/48V	214 x 129 x 72
Premium range	WREG20	20A premium controller (LCD display)	12/24	150 x 120 x 50
	WREG30	30A premium controller (LCD display)	12/24	150 x 120 x 50
Monitoring and programming accessories	EBOX-BT	Bluetooth module for mobile app access	-	63 x 19 x 10
	EBOX-WIFI	Wi-Fi module for mobile app access	-	63 x 19 x 10
	PTR-USB	1.5m USB cable for computer connection	-	-
	BW2MT50	2m cable to connect waterproof controller to remote meter / Wi-Fi module	-	-
	BW7MT50	7m cable to connect waterproof controller to remote meter / Wi-Fi module	-	-
	BW5USB	5m cable to connect waterproof controller to a computer	-	-

High-efficiency MPPT controllers

Our MPPT range of solar charge controllers includes excellent quality Tracer controllers in a sturdy die cast aluminium casing. All the usual electronic protection functions come as standard, plus the advantage of adjustable settings and system monitoring (via an external LCD display). These MPPT controllers allow a user defined battery type for a more precise or bespoke charging programme.

Product code TR2215BN with MT50

Product code PTR1210AN

We offer intelligent MPPT controllers with integrated LCD displays, including our PTRxxxxAN and TRxxxxAN series controllers which show live data including power, voltage and current for both the solar panel and battery.

Buck-boost controller – these MPPT controllers have the unique ability to convert any voltage (even low) from a solar panel and change it to the right charging voltage required by the battery. An example would be a solar panel that generates 9-10V maximum, but connected to our WBOOST10 controller, can charge a 12V or 24V battery.

Product code WBOOST10

Product code XTR4210N

Our newest and the most advanced range of MPPT controllers includes 6 XTR models with in-built Bluetooth communication for seamless App monitoring and parameter setting. With an excellent electromagnetic compatibility and design, battery-less function, lithium batteries support and a high number of customisable settings, these controllers will be an excellent choice for any solar power application.

	Product Code	Description	Max. Solar Panel Rating			Dimensions (mm)
			12V	24V	48V	
Tracer AN MPPT range	PTR1210AN	10A Photonic Universe MPPT controller	130W	260W	-	170 x 140 x 40
	PTR2210AN	20A Photonic Universe MPPT controller	260W	520W	-	220 x 150 x 50
	PTR3210AN	30A Photonic Universe MPPT controller	390W	780W	-	228 x 164 x 55
	PTR4210AN	40A Photonic Universe MPPT controller	520W	1040W	-	252 x 180 x 63
	PTR5415AN	50A Photonic Universe MPPT charge controller	625W	1.2kW	2.5kW	261 x 216 x 119
	PTR6415AN	60A Photonic Universe MPPT charge controller	750W	1.5kW	3.0kW	340 x 216 x 119
	TR8420AN	80A MPPT charge controller	1.0kW	2.0kW	4.0kW	394 x 240 x 134
	TR10420AN	100A MPPT charge controller	1.2kW	2.5kW	5.0kW	394 x 242 x 143
Built-in Bluetooth MPPT range	XTR1210N	10A MPPT solar charge controller 100V with Bluetooth	130W	260W	-	175 x 143 x 48
	XTR2210N	20A MPPT solar charge controller 100V with Bluetooth	260W	520W	-	217 x 158 x 56
	XTR3210N	30A MPPT solar charge controller 100V with Bluetooth	390W	780W	-	230 x 165 x 63
	XTR4210N	40A MPPT solar charge controller 100V with Bluetooth	520W	1040W	-	255 x 185 x 68
	XTR3415N	30A MPPT solar charge controller 150V with Bluetooth	390W	780W	1560W	255 x 189 x 83
	XTR4415N	40A MPPT solar charge controller 150V with Bluetooth	520W	1040W	2080W	255 x 189 x 83
	MT52	Remote meter display		-		114 x 114 x 48
Dual load (CCTV) MPPT range	MSC3210N	30A MPPT solar charge controller with dual 12V/24V load	390W	780W	-	178 x 162 x 80
TBB Power range	TBB-SF100-30	TBB Power 30A MPPT solar charge controller	500W	1000W	-	187 x 116 x 76
Tracer MPPT range	TR1215BN	10A MPPT controller	130W	260W	-	196 x 118 x 36
	TR2215BN	20A MPPT controller	260W	520W	-	217 x 143 x 56
	TR3215BN	30A MPPT controller	390W	780W	-	281 x 160 x 60
	TR4215BN	40A MPPT controller	500W	1.0kW	-	303 x 183 x 64
	MT50	Remote meter display		-		114 x 114 x 48
Waterproof MPPT range	LUX1012WP-BT	Waterproof 10A MPPT charge controller	130W	-	-	86 x 81 x 23
	LUX1524WP-BT	Waterproof 15A MPPT charge controller	200W	400W	-	86 x 145 x 30
	LUX2024WP-BT	Waterproof 20A MPPT charge controller	260W	520W	-	96 x 145 x 30
Advanced MPPT range	WBOOST10	10A buck boost MPPT controller	120W	220W	-	160 x 135 x 50
	WMPPT20	20A MPPT controller with LCD display	310W	620W	-	154 x 130 x 53
Accessories	PT-ADP-PORT	Adapter for parallel connection of Tracer AN controllers (from 50A)		-		-

Dual battery MPPT controllers

Truly unique and exceptional, these advanced solar charge controllers combine two important functions which rarely appear in one unit:

- Maximum Power Point tracking to extract the most energy possible from your solar panel, bringing the efficiency up to 95-97% and converting the high voltage of your solar panels into extra amps for battery charging
- Dual battery charging with separate outputs for the main battery and the starter battery (trickle charging), with overcharging protection for each battery.

Product code DM1024

Product code MT11

The controllers come with several programmes for charging various types of batteries. When the main batteries are full, these controllers can redirect the excess solar power into running some types of fridges using the AES signal port. Other important features include an external fuse, temperature compensation, and the full set of protection functions (over charge, overheating, back discharge etc.).

Each controller has a socket for connecting an optional remote MT11 meter. The meter provides useful information about your solar system performance and displays important charging parameters, such as battery voltage (V), charging current (A), available solar power (W) and energy counter data for the total generated solar power over a period of time (Ah, Wh).

	Product Code	Description	Max. Solar Panel Rating		Dimensions (mm)
			12V	24V	
Dual battery MPPT	DM1024	10A dual battery MPPT solar charge controller	130W	260W	227 x 143 x 58
	DM2024	20A dual battery MPPT solar charge controller	260W	520W	244 x 158 x 63
	DM3024	30A dual battery MPPT solar charge controller	390W	780W	244 x 158 x 63
Accessories	MT11	Remote meter with 5m cable and mounting frame	-	-	(without frame): 98 x 98 (with frame): 114 x 114
	DM-USB	1.5m USB cable for computer connection	-	-	-
	DM-RJ45-S	15cm connector for Bluetooth or WiFi dongle	-	-	-
	DM-RJ45-L	1.5m connector for Bluetooth or WiFi dongle	-	-	-

Victron controllers

Photonic Universe is an official distributor of products from Victron Energy – the globally renowned manufacturer of high quality power electronics.

BlueSolar MPPT series

Product code VBSM75-15

The intelligent BlueSolar range uses the latest ultrafast MPPT technology to maximise energy harvest whilst maintaining optimal battery health. BlueSolar MPPT controllers uniquely boast the Victron BatteryLife function; designed to significantly extend the lifetime of the battery. All BlueSolar models also feature advanced communication options for remote system monitoring.

SmartSolar MPPT series

The SmartSolar MPPT controllers include the advanced features of BlueSolar controllers, along with several additional functions such as built-in bluetooth to enable instant wireless control via a smartphone, as well as programmable relay contacts on certain models. These models are also compatible with an optional connectable display.

Product code VSSM150-85

Accessories

We also offer a range of premium Victron accessories which unlock exclusive monitoring and programming features for Victron MPPT solar charge controllers.

Product code VE-DONGLE

Product code VE-CONTROL

Product code VE-USB

	Product Code	Description	Max. Solar Panel Rating			
			12V	24V	36V	48V
BlueSolar MPPT	VBSM75-10	10A BlueSolar MPPT charge controller 75V	145W	290W	-	-
	VBSM75-15	15A BlueSolar MPPT charge controller 75V	220W	440W	-	-
	VBSM100-20	20A BlueSolar MPPT charge controller 100V	290W	580W	870W	1160W
	VBSM100-30	30A BlueSolar MPPT charge controller 100V	440W	880W	-	-
	VBSM100-50	50A BlueSolar MPPT charge controller 100V	700W	1400W	-	-
	VBSM150-35	35A BlueSolar MPPT charge controller 150V	500W	1000W	1500W	2000W

	VBSM150-45	45A BlueSolar MPPT charge controller 150V	650W	1300W	1950W	2600W
	VBSM150-60	60A BlueSolar MPPT charge controller 150V	860W	1720W	2580W	3440W
	VBSM150-70	70A BlueSolar MPPT charge controller 150V	1000W	2000W	3000W	4000W
SmartSolar MPPT	VSSM75-10	10A SmartSolar MPPT charge controller 75V	145W	290W	-	-
	VSSM75-15	15A SmartSolar MPPT charge controller 75V	220W	440W	-	-
	VSSM100-20	20A SmartSolar MPPT charge controller 100V	290W	580W	-	1160W
	VSSM100-30	30A SmartSolar MPPT charge controller 100V	440W	880W	-	-
	VSSM100-50	50A SmartSolar MPPT charge controller 100V	700W	1400W	-	-
	VSSM150-35	35A SmartSolar MPPT charge controller 150V	500W	1000W	1500W	2000W
	VSSM150-45	45A SmartSolar MPPT charge controller 150V	650W	1300W	1950W	2600W
	VSSM150-60	60A SmartSolar MPPT charge controller 150V	860W	1720W	2580W	3440W
	VSSM150-70	70A SmartSolar MPPT charge controller 150V	1000W	2000W	3000W	4000W
	VSSM150-85	85A SmartSolar MPPT charge controller 150V	1200W	2400W	3600W	4900W
	VSSM150-100	100A SmartSolar MPPT charge controller 150V	1450W	2900W	4350W	5800W
	VSSM250-60	60A SmartSolar MPPT charge controller 250V	860W	1720W	2580W	3440W
	VSSM250-70	70A SmartSolar MPPT charge controller 250V	1000W	2000W	3000W	4000W
	VSSM250-85	85A SmartSolar MPPT charge controller 250V	1200W	2400W	3600W	4900W
	VSSM250-100	100A SmartSolar MPPT charge controller 250V	1450W	2900W	4350W	5800W
Accessories	VE-DONGLE	VE.Direct bluetooth dongle for BlueSolar controllers	-	-	-	-
	VE-CONTROL	LCD display for BlueSolar controllers	-	-	-	-
	VE-DCABLE09	0.9m VE.Direct cable for connecting the remote display	-	-	-	-
	VE-DCABLE18	1.8m VE.Direct cable for connecting the remote display	-	-	-	-
	VE-DCABLE30	3.0m VE.Direct cable for connecting the remote display	-	-	-	-
	VE-DCABLE50	5.0m VE.Direct cable for connecting the remote display	-	-	-	-
	VE-USB	VE.Direct controller to PC USB cable for BlueSolar & SmartSolar	-	-	-	-
	VSS-DISPLAY	LCD display for SmartSolar controllers	-	-	-	-

Other products

We can supply the full range of other Victron products, including inverters, chargers, battery monitors and more – please contact us for details.

Morningstar controllers

As an official distribution partner of Morningstar products across the globe, we are proud to offer solar charge controllers from this world-leading supplier.

Product code SSD-25

Innovative design from years of dedicated research and superior build quality enable these top-of-the-range solar charge controllers to extend battery capacity and life, maximise energy production, and consistently achieve high performance standards. An impressive 5 year warranty makes these controllers a perfect choice for systems where reliability is the key.

SunSaver series

Simplicity and longevity – SunSaver controllers take care of themselves. With factory pre-sets, full automation, self-diagnostics and dead battery recovery as standard, these controllers can be installed and left to perform. The sealed PWM models are perfect for oil/gas, telecom applications with sensitive loads, as well as battery protection for marine and boating. The Duo model can charge two separate isolated batteries for leisure and engine batteries, and is well recognised in the solar industry for high reliability.

Product code SS-20L-12V

Product code SSD-25RM

	Product Code	Description	Max. Solar Panel Rating		Extra specifications
			12V	24V	
SunSaver	SS-10L-12V	10A 12V PWM controller	10A	-	+ Rated for Hazardous locations + Marine rated terminals + Dead battery recovery function
	SS-20L-12V	20A 12V PWM controller	20A	-	
	SS-10L-24V	10A 24V PWM controller	-	10A	
	SS-20L-24V	20A 24V PWM controller	-	20A	
SunSaver Duo	RM-1	Remote Meter for SunSaver series	-	-	+ 10m cable
	SSD-25	25A dual controller	25A	-	+ Estimated 15 year life + Longer battery life
	SSD-25RM	25A dual controller with remote meter	25A	-	

Consistently pushing the boundaries for solar controllers, the TriStar controllers combine sophistication and reliability for wind, solar or hydro off-grid systems. The MPPT model with TrakStar Technology™ gives excellent performance statistics – with an industry record of 99% peak efficiency and significantly lower power losses compared to other MPPT controllers.

Product code TS-MPPT-30

Product code TS-MPPT-60-600V-48

Product code TS-MPPT-60-600V-48-DB-TR

TriStar MPPT-600V is the only MPPT solar charge controller on the market which can accept solar panel voltage up to 600V, thus simplifying the installation and reducing the cost of connecting cables. Available in a standard 60A 48V version (TS-MPPT-60-600V-48), as well as equipped with DC transfer switch box (TS-MPPT-60-600V-48-DB-TR) for retrofitting existing grid-tie systems with a battery backup component.

	Product Code	Description	Max. Solar Panel Rating			Extra specifications
			12V	24V	48V	
TriStar	TS-45	45A PWM controller	45A	45A	45A	+ Wind power + Hybrid systems
	TS-60	60A PWM controller	60A	60A	60A	
TriStar MPPT	TS-MPPT-30	30A MPPT controller	390W	780W	1.5kW	+ 99% peak efficiency + Extensive communications
	TS-MPPT-45	45A MPPT controller	600W	1.2kW	2.4kW	
TriStar MPPT 600V	TS-MPPT-60-600V-48	60A MPPT controller for 600VDC and 48V battery	-	-	3.2kW	+ High voltage capacity + 97.9% peak efficiency + Hybrid systems + System networking
	TS-MPPT-60-600V-48-DB-TR	60A MPPT controller for 600VDC and 48V battery with DC transfer switch box	-	-	3.2kW	
	TS-RM-2	Remote meter for MPPT controllers	-	-	-	Suitable for all TriStar models
	HUB-1	MeterHub for linking several controllers	-	-	-	For TS, TS-MPPT controllers and TS-RM-2 meter
	EMC-1	Morningstar Ethernet Meterbus Converter	-	-	-	Allows remote control and monitoring of TriStar controllers
	RD-1	Morningstar Relay Driver	-	-	-	Voltage sensing switch for generator or load control

Semi-flexible solar charging kits

Whether you need a flexible solar panel as part of a complete kit to charge your battery, or simply a panel and controller, we offer all options. Our flexible charging kits are available with all types of our solar panels and we are certain there will be a kit to suit everyone.

We also regularly supply bespoke kits for specific applications.

Product code ARFLX-80M-KIT

Product code FLAXB-120M-KIT

Product code 2XARFLXNR-80M-KIT

FLPROSL-170M-KIT

Our complete off-grid van conversion kits have been expertly designed to maximise efficiency and output. They come equipped with semi-flexible solar panels, an inverter, a solar charge controller, a battery, and connection accessories.

Below are the examples of some of the semi-flexible solar charging kits we offer.

	Product Code	Description	Additional items in the kit
ARFLX range	ARFLX-20M-KIT	20W semi-flexible charging kit	PWM controller, 2 x 5m cables
	ARFLX-30M-KIT	30W semi-flexible charging kit	PWM controller, 2 x 5m cables
	ARFLXNR-50M-KIT	50W narrow semi-flexible charging kit	PWM controller, 2 x 5m cables
	ARFLX-60M-KIT	60W semi-flexible charging kit	PWM controller, 2 x 5m cables
	ARFLX-60M-DBKIT	60W semi-flexible dual battery charging kit	Dual controller, 2 x 5m cables
	ARFLX-80M-KIT	80W semi-flexible charging kit	PWM controller, 2 x 5m cables
	ARFLX-80M-DBKIT	80W semi-flexible dual battery charging kit	Dual controller, 2 x 5m cables
	ARFLXNR-80M-KIT	80W narrow semi-flexible charging kit	PWM controller, 2 x 5m cables
	ARFLXSL2-100M-KIT	100W narrow semi-flexible charging kit	PWM controller, 2 x 5m cables

	ARFLXSL2-100M-DBKIT	100W narrow semi-flexible dual battery charging kit	Dual controller, 2 x 5m cables
	2XARFLXNR-50M-KIT	100W (50W+50W) narrow semi-flexible charging kit	PWM controller, 2 x 5m cables
	2XARFLXNR-50M-DBKIT	100W (50W+50W) narrow semi-flexible dual battery charging kit	Dual controller, 2 x 5m cables
	2XARFLXNR-80M-KIT	160W (80W+80W) narrow semi-flexible charging kit	PWM controller, 2 x 5m cables, T-MC4 connectors
	2XARFLXNR-80M-DBKIT	160W (80W+80W) narrow semi-flexible dual battery charging kit	Dual controller, 2 x 5m cables, T-MC4 connectors
FLAX range	FLAXSCB2-30M-KIT	30W ultra-narrow semi-flexible charging kit	PWM controller, 2 x 5m cables
	FLAXNRB2-100M-KIT	100W ultra-narrow semi-flexible charging kit	PWM controller, 2 x 5m cables
	FLAXNRB2-100M-DBKIT	100W semi-flexible dual battery charging kit	Dual controller, 2 x 5m cables
	FLAXB-120M-KIT	120W semi-flexible charging kit	PWM controller, 2 x 5m cables
	FLAXB-120M-DBKIT	120W semi-flexible dual battery charging kit	Dual controller, 2 x 5m cables
	FLAXSLB-130M-KIT	130W narrow semi-flexible charging kit	PWM controller, 2 x 5m cables
	FLAXSLB-130M-DBKIT	130W narrow semi-flexible dual battery charging kit	Dual controller, 2 x 5m cables
	FLAXSLB2-150M-KIT	150W narrow semi-flexible charging kit	PWM controller, 2 x 5m cables
	FLAXSLB2-150M-DBKIT	150W narrow semi-flexible dual battery charging kit	Dual controller, 2 x 5m cables
	FLAXB-160M-KIT	160W semi-flexible charging kit	PWM controller, 2 x 5m cables
	FLAXB-160M-DBKIT	160W semi-flexible dual battery charging kit	Dual controller, 2 x 5m cables
FLPRO range	FLPRO-160M-KIT	160W semi-flexible charging kit with adhesive	MPPT controller with LCD, solar and battery cable
	FLPROSL-170M-KIT	170W narrow semi-flexible charging kit	MPPT controller with LCD, solar and battery cable
	FLPRO-180M-KIT	180W semi-flexible charging kit with adhesive	MPPT controller with LCD, solar and battery cable
	FLPRO-210M-KIT	210W semi-flexible charging kit with adhesive	MPPT controller with LCD, solar and battery cable
	FLPRO-240M-KIT	240W semi-flexible charging kit with adhesive	MPPT controller with LCD, solar and battery cable
	FLPRO-270M-KIT	270W semi-flexible charging kit with adhesive	MPPT controller with LCD, solar and battery cable
	FLPRO-330M-KIT	330W semi-flexible charging kit with adhesive	MPPT controller with LCD, solar and battery cable
	2XFLPRO-240M-KIT	480W (240W+240W) semi-flexible charging kit with adhesive	MPPT controller with LCD, solar and battery cable
Van kits	VANKIT-1000	1kW van conversion kit with a 200W semi-flexible solar panel	100Ah 12V battery, PWM controller, 1000W inverter
	VANKIT-1500	1.5kW van conversion kit with 2 x 150W narrow semi-flexible panels	200Ah 12V battery, PWM controller, 1500W inverter
	VANKIT-2000	2kW van conversion kit with 2 x 160W semi-flexible solar panels	200Ah 12V battery, PWM controller, 2000W inverter
	VANKIT-3000	3kW van conversion kit with 2 x 160W semi-flexible solar panels	200Ah 12V battery, PWM controller, 3000W inverter
	VANDBKIT-1000	1kW dual battery van conversion kit with 2 x 130W narrow panels	100Ah 12V battery, dual battery controller, 1000W inverter
	VANDBKIT-1500	1.5kW dual battery van conversion kit with 2 x 150W narrow panels	200Ah 12V battery, dual battery controller, 1500W inverter
	VANDBKIT-2000	2kW dual battery van conversion kit with 2 x 160W solar panels	200Ah 12V battery, dual battery controller, 2000W inverter
	VANDBKIT-3000	3kW dual battery van conversion kit with 2 x 160W solar panels	200Ah 12V battery, dual battery controller, 3000W inverter

Essential rigid frame solar charging kits

At Photonic Universe you'll find a range of high quality solar charging kits for any budget. As well as complete kits, all of our rigid-framed solar panels are available as part of cost-effective essential kits which include the basics required to get started.

With essential kits ranging from 5W to 320W, for either single or dual battery systems, we have options to suit any application.

Each kit features a solar panel with cable attached to it and an appropriately rated solar charge controller.

Product code BST-20P-12VKIT

Product code SWG-50M-DB1024

Product code SWG-100M-PU1024B

Product code SWG-200M-DB2024

	Product Code	Description	Additional items in the kit
Single battery kits	BST-5M-12VKIT	5W trickle charging kit	5A controller, solar cable, battery cable
	BST-10M-12VKIT	10W trickle charging kit	5A controller, solar cable, battery cable
	BST-20P-12VKIT	20W charging kit	5A controller, solar cable, battery cable
	BST-30P-12VKIT	30W charging kit	5A controller, solar cable, battery cable
	SWG-40M-PU1024B	40W essential charging kit	10A controller, 5m solar cable
	SWG-50M-PU1024B	50W essential charging kit	10A controller, 5m solar cable
	SWG-60M-PU1024B	60W essential charging kit	10A controller, 5m solar cable
	SWG-80M-PU1024B	80W essential charging kit	10A controller, 5m solar cable
	SWG-100M-PU1024B	100W essential charging kit	10A controller, 5m solar cable
	SWG-120M-PU1024B	120W essential charging kit	10A controller, 5m solar cable
	SWG-150M-PU1024B	150W essential charging kit	10A controller, 5m solar cable
	SWG-180M-PU2024B	180W essential charging kit	20A controller, 5m solar cable
	SWG-200M-PU2024B	200W essential charging kit	20A controller, 5m solar cable
	SWG-250M-PU2024B	250W essential charging kit	20A controller, 5m solar cable
	SWG-320M-PU2024B	320W essential charging kit	20A controller, 5m solar cable
Dual battery kits	SWG-40M-DB1024	40W essential dual charging kit	10A dual battery controller, 5m solar cable
	SWG-50M-DB1024	50W essential dual charging kit	10A dual battery controller, 5m solar cable
	SWG-60M-DB1024	60W essential dual charging kit	10A dual battery controller, 5m solar cable
	SWG-80M-DB1024	80W essential dual charging kit	10A dual battery controller, 5m solar cable
	SWG-100M-DB1024	100W essential dual charging kit	10A dual battery controller, 5m solar cable
	SWG-120M-DB1024	120W essential dual charging kit	10A dual battery controller, 5m solar cable
	SWG-150M-DB1024	150W essential dual charging kit	10A dual battery controller, 5m solar cable
	SWG-180M-DB2024	180W essential dual charging kit	20A dual battery controller, 5m solar cable
	SWG-200M-DB2024	200W essential dual charging kit	20A dual battery controller, 5m solar cable
	SWG-250M-DB2024	250W essential dual charging kit	20A dual battery controller, 5m solar cable
	SWG-320M-DB2024	320W essential dual charging kit	20A dual battery controller, 5m solar cable

Complete rigid frame solar charging kits

Our complete solar charging kits make choosing the perfect combination of items simple.

These kits are an ideal choice for mounting a rigid framed solar panel on a roof or flat surface as they include everything required for fast and simple connection and installation.

In addition to the solar panel and solar charge controller, all kits come complete with mounting accessories and high quality solar and battery cable. Simply connect to your battery bank to immediately benefit from the power of solar.

Product code PHQ-360M-KIT

Product code SWG-120M-DB

Product code SWG-150M-DB

Product Code	Description	Additional items in the kit
SWG-40M-DB	40W complete dual battery kit	10A dual battery controller, solar cable, battery cable, plastic mounting set
SWG-50M-DB	50W complete dual battery kit	10A dual battery controller, solar cable, battery cable, plastic mounting set
SWG-80M-DB	80W complete dual battery kit	10A dual battery controller, solar cable, battery cable, plastic mounting set
SWG-120M-DB	120W complete dual battery kit	10A dual battery controller, solar cable, battery cable, plastic mounting set
SWG-150M-DB	150W complete dual battery kit	10A dual battery controller, solar cable, battery cable, plastic mounting set
SWG-200M-DB	200W complete dual battery kit	20A dual battery controller, solar cable, battery cable, plastic mounting set
PHQ-360M-KIT	360W monocrystalline complete powerful charging kit	30A MPPT controller, solar cable, battery cable, connectors, plastic mounting set

Portable folding solar charging kits

Providing simplicity and accessibility, our complete portable folding solar charging kits with high quality solar cells make charging batteries an effortless task. Simply remove the panels from the protective foam case, connect to the battery using the crocodile clips or ring terminals provided, adjust the aluminium stand to point towards the Sun and away you go!

Product code SWD-FWP-100M

Product code SWD-FWP-80M

Product code SWD-FWP-60M

Product code SWD-FWP-60M

- Completely waterproof, including the solar charge controller attached
- High efficiency monocrystalline solar cells encased in a sturdy aluminium frame
- Easily transportable and simple to store
- Parameters for the solar charge controller can be monitored and programmed remotely via connection to an LCD meter (MT50) or via a Wi-Fi module (EBOX-WIFI). Requires RS485 to RJ45 cable (BW2MT50)
- These folding kits are also available without a solar charge controller for customers interested in mounting a solar charge controller of their choice in a different location (for example, inside their vehicle or boat).

Accessories

Product code CRING40
Used for connecting folding charging kits to hard-to-reach batteries

Product code CEXT40
Replacement end of cable with crocodile clips (for temporary battery connection)

Product code 5ALEAD40
5m extension cable for folding solar charging kits

Product code BW2MT50
2m cable to connect solar charge controller to a remote display / Wi-Fi module

Our range of folding solar charging kits also include premium ARF-FWP lightweight kits constructed from lightweight aluminium reinforced solar panels with ETFE coating. With less than half of the weight of the standard SWD-FWP rigid frame folding solar kits, these lightweight portable charging kits are also equipped with high efficiency MPPT solar charge controllers

which extract the maximum amount of power from the solar panels and ensure the highest efficiency of the solar system.

We also offer lightweight portable solar panels 80W – 400W in the ARF range which are an excellent choice for portable power packs.

Product code ARF-FWP-100M

Product Code	Description	Dimensions (mm)	Weight (kg)
SWD-FWP-40M	40W 12V folding kit	345 x 470 x 60	5.4
SWD-FWP-60M	60W 12V folding kit	345 x 645 x 60	7.5
SWD-FWP-80M	80W 12V folding kit	510 x 610 x 70	10.5
SWD-FWP-100M	100W 12V folding kit	510 x 695 x 70	12
SWD-FWP-120M	120W 12V folding kit	505 x 770 x 70	12.8
SWD-FWP-150M	150W 12V folding kit	510 x 1007 x 70	15
SWD-FNC-100M	100W 12V folding solar panel (no controller)	510 x 695 x 70	11.8
SWD-FNC-120M	120W 12V folding solar panel (no controller)	505 x 770 x 70	12.6
SWD-FNC-150M	150W 12V folding solar panel (no controller)	510 x 1007 x 70	14.8
ARF-FWP-80M	80W 12V lightweight folding solar kit with MPPT controller	565 x 510 x 50	4.5
ARF-FWP-100M	100W 12V lightweight folding solar kit with MPPT controller	615 x 565 x 50	5.5
ARF-FWP-120M	120W 12V lightweight folding solar kit with MPPT controller	715 x 565 x 50	6.3
ARF-FNC-200M	200W 12V/24V folding solar panel (no controller)	900 x 590 x 50	7.38
ARF-FNC-300M	300W 12V/24V folding solar panel (no controller)	900 x 590 x 70	10.54
ARF-FNC-400M	400W 12V/24V folding solar panel (no controller)	900 x 590 x 90	14.10
CRING40	0.5m cable with ring terminals	-	
CEXT40	0.5m cable with crocodile clips	-	
5ALEAD40	5m extension cable with plugs	-	
BW2MT50	2m RS485 to RJ45 cable to connect waterproof solar charge controller to a remote display or Wi-Fi module	-	
BW7MT50	7m RS485 to RJ45 cable to connect waterproof solar charge controller to a remote display or Wi-Fi module	-	

Portable power stations

Portable power stations are the ultimate solution for off-grid adventures and backup power needs. Designed for versatility, they can be recharged effortlessly via AC mains or solar panels, ensuring you stay powered up wherever you are. With multiple charging options, including USB-A, USB-C, and UK-standard AC outlets, these power stations are perfect for charging smartphones, laptops, and even small appliances. Compact, reliable, and eco-friendly, they are your go-to for uninterrupted power -whether you're camping, working remotely, building, or preparing for emergencies.

Product code P500S

The P300S and P500S are lightweight, portable power stations designed to elevate your outdoor experiences. With versatile DC and AC interface outputs, these power stations are perfect for camping, fishing, laptops, remote working, gadget charging, photography, and more. The P1200S is a more powerful unit that can be used for all of the above, as well exhibitions, market stalls, payment machines, sheds, garages etc.

Product code P2400S

The P2400S station has 2400W rated AC output and is suitable for construction sites, cabins, glamping pods, large power tools, off-grid energy storage and more. It features expandable capacity and pairs seamlessly with the P2400SB 2240Wh expansion battery for even greater energy storage. Equipped with advanced two-way inverter technology, it charges to approximately 80% in just 1 hour via AC, minimising downtime. For off-grid use, it supports up to 1000W charging through a portable solar panel. Whether powering essential devices or providing reliable backup, the P2400S is a powerhouse of performance and versatility.

Product code P5000M

The P5000M is a powerful 5kW solar generator that takes energy storage to the next level with its advanced 7kW dual-MPPT solar input built on a 5kWh LiFePO4 battery. This power station combines a battery management system (BMS) and the inverter system, offering unmatched reliability and efficiency. Perfect for construction sites, residential energy storage, solar systems, emergency disaster relief, backup power for critical loads, the P5000M delivers sustainable, robust power where it's needed most. With its portable design, it's an ideal solution for contractors and builders requiring dependable energy in remote or off-grid locations.

Product Code	Description	Max AC output (W)	Max AC input (W)	Max solar input (W)	Battery capacity (Wh)	Size (mm)	Weight (kg)
P300S	300W 294Wh portable power station	300	120	120	294	340 x 185 x 105	4.2
P500S	500W 512Wh portable power station	500	500	200	518	333 x 184 x 224	7.5
P1200S	1200W 1030Wh portable power station	1200	1000	800	1030	340 x 220 x 256	12
P2400S	2400W 2240Wh portable power station	2400	2000	1000	2240	405 x 288 x 255	22.5
P2400SB	2240Wh expansion battery for P2400S	-	-	-	2240	360 x 288 x 185	18
P5000M	5000W 5120Wh portable solar generator	2000/ 5000 (EPS)/ 5000 (Grid)	2000/ 5000 (grid)	7000	5120	721 x 408 x 809 (with base) 651 x 408 x 670 (without base)	90

High frequency off-grid inverters

Our high frequency power inverters convert 12V, 24V or 48V DC battery power into 230V 50Hz mains AC electricity. Inverters generate pure sine wave output with quality similar to utility power.

Product code IPC-600

Product code IPC-600

Inverters are usually a vital component in all our off-grid solar power systems, though they can also be used separately in battery backup power systems.

Small 300W-600W inverters can run low-power household appliances such as energy saving lights, LCD TVs, mobile phone charging, computers, laptops or radios.

Large inverters of 2000W and higher can run more powerful appliances such as a microwave or coffee machine.

Product code IPR-1000

Product code IPR-1000

Remote On/Off switch for IPR-1000

High frequency inverters typically benefit from having high energy efficiency, as well as a relatively small size and weight.

High frequency inverters have limited peak power handling capabilities (up to x2 nominal power for less than 1 sec.), so for appliances with uneven power consumption an inverter would need to be "oversized".

In addition to the inbuilt On/Off switch, all of our IPR inverters come with a wireless On/Off remote switch. Large 3kW and 4kW IPC inverters come with an inbuilt and a wired On/Off remote switch.

Product Code	Description	Batt. Voltage (V)	Peak Power (W)	Dimensions (mm)	Weight (kg)
IPC-300	300W pure sine wave inverter	12V	600	215 x 150 x 60	1.4
IPC-300-24		24V			
IPC-600	600W pure sine wave inverter	12V	1200	260 x 150 x 80	2
IPC-600-24		24V			
IPR-1000	1000W pure sine wave inverter with a wireless On/Off switch	12V	2000	325 x 220 x 95	2.7
IPR-1000-24		24V			
IPR-1000-48		48V			
IPR-1500	1500W pure sine wave inverter with a wireless On/Off switch	12V	3000	405 x 220 x 90	4.4
IPC-2000	2000W pure sine wave inverter	12V	4000	370 x 230 x 110	4.9
IPC-2000-24		24V			
IPR-2000	2000W pure sine wave inverter with a wireless On/Off switch	12V	4000	390 x 220 x 95	5.0
IPR-2000-24		24V			
IPR-2000-48		48V			
IPR-3000	3000W pure sine wave inverter with a wireless On/Off switch	12V	6000	460 x 220 x 95	6.0
IPR-3000-24		24V			
IPR-3000-48		48V			
IPC-3000	3000W pure sine wave inverter with remote On/Off switch	12V	6000	488 x 23 x 108	7.7
IPC-3000-24		24V			
IPC-4000	4000W pure sine wave inverter with remote On/Off switch	12V	8000	540 x 230 x 110	9
IPC-4000-24		24V			

Low frequency inverters with chargers

Product code LK3000

Our impressive LK series of inverters allow smooth running of even heavy duty appliances that require a large peak power (such as power tools, vacuum cleaners, pressure washers). As well as having built in transformers to provide a stronger and sturdier machine, they are also capable of recharging batteries from mains

and boast an Uninterrupted Power Supply (UPS) so if your mains power fails, it switches automatically to battery power. The LCD display shows all configurations and adaptable manual settings for complete control of running your everyday appliances. If you are planning on keeping your inverter out of reach, there is also a remote switch that can be purchased to provide complete control.

Product code LK6000-24

Product code LKSWITCH

Our low frequency inverters also feature a “Power Saver Mode” which allows them to enter standby automatically and save energy when no load is present.

Product Code	Description	Batt. Voltage (V)	Peak Power (W)	Dimensions (mm)	Weight (kg)
LK2000	2000W low frequency inverter	12V	6000	442 x 218 x 179	22
LK2000-24		24V			
LK3000	3000W low frequency inverter	12V	9000	442 x 218 x 179	26
LK3000-24		24V			
LK3000-48		48V			
LK6000-24	6000W low frequency inverter	24V	18000	605 x 218 x 179	40
LK6000-48		48V			
LKSWITCH	Remote switch for all LK inverters	-		90 x 60 x 20	0.5

Iconica hybrid inverters

Product code IC-BP1000-12

Iconica hybrid inverters intelligently combine the functions of a pure sine wave inverter, a solar charge controller and a smart mains battery charger in one single unit. These hybrid inverters accept input from solar panels, mains power / generator and a battery – either from a single input source or a combination of sources.

The rare hybrid capability of Iconica inverters make them the perfect solution for any off-grid application

with limited or zero access to traditional mains power.

Their Uninterrupted Power Supply (UPS) make them the ideal option for applications where the power supply is unreliable, intermittent or expensive to maintain; including selective models with a Zero transfer time (0ms) UPS which are perfect for IT infrastructure and other critical loads.

Iconica inverters boast an abundance of unique features, providing enhanced functionality over standard inverters.

Unique features

- A wide selection of battery charging priority and mains output source priority options (e.g. from solar power only/ using a combination of solar power and mains power/ from mains power only etc.)
- Advanced remote system monitoring (e.g. via PC, SMS, email)
- A menu full of highly customisable settings
- In certain models: Parallel (up to 45kW) and 3-phase capability, 'No-battery' support, Zero transfer time UPS, Grid-tie & Grid-tie with backup, remote LCD display, Bluetooth with app access, dry contacts, high voltage PV input, dual solar MPPT inputs, and dual AC inputs.

Load power without a battery

Certain models in the Iconica range even have the unique ability to power AC loads (and themselves) directly from the solar input, without the need for a battery bank to be connected. This creates an independent and versatile power system, free from batteries if preferred. Removing the need for batteries also increases the efficiency of the energy generated from the solar array by reducing the power losses that this transfer of energy would usually cause. However, if a battery bank is available, the inverter can power loads directly from the solar panels whilst charging the batteries at the same time.

Product code IC3-BM3000-24

Product code IC-ZT5000-48

UPS Zero transfer time

Iconica ZT models offer instant 0ms transfer from mains to battery mode when mains power is interrupted (normal speed of transfer for other inverters is 10-20ms). This improved UPS functionality allows critical IT loads such as computers and servers to operate continuously in case of power failures; making these the ideal option for applications requiring an exceptionally reliable power supply.

Grid-tie capability

Model ICGT-IFS5500-48 is a UK grid-tie certified hybrid inverter which features both On-grid and Off-grid functionality. This offers the possibility to feed power back to the grid, as well as to a battery or connected load. Various modes allow the user to choose between Grid-tie function + Off grid back-up, Grid-tie alone, or Off-grid alone. This model features 2 x MPP trackers and a variety of advanced programmable settings.

Product code ICGT-IFS5500-48

Product code IC-WIFI-2

Accessories

Various accessories are also available for advanced system communication and expansion. These include parallel connection kits for connecting up to 9 hybrid inverters together, an energy meter for monitoring grid-tie systems and Wi-Fi monitoring kits.

Product Code	Description	Voltage (V)	Peak Power (W)	Weight (kg)
IC-BP1000-12	1000W 12V hybrid inverter with 50A controller & 20A mains battery charger	12V	1000W	5.0
IC-BM1000-12	1000W 12V hybrid inverter with 40A controller & 20A mains battery charger	12V	1000W	5.0
IC-BP2000-24	2000W 24V hybrid inverter with 50A controller & 20A mains battery charger	24V	2000W	5.5
IC-BM2000-24	2000W 24V hybrid inverter with 40A controller & 25A mains battery charger	24V	2000W	5.5
IC-BP3000-24	3000W 24V hybrid inverter with 50A controller & 25A mains battery charger	24V	3000W	6.3
IC-BM3000-24	3000W 24V hybrid inverter with 40A controller & 25A mains battery charger	24V	3000W	7.0
IC-BM3000-24P	3000W 24V hybrid inverter with 60A controller & 60A mains battery charger	24V	3000W	9.5
IC-KMS3000-48P	3000W 48V hybrid inverter with 60A controller & 15A mains battery charger	48V	3000W	11.5
IC3-BM3000-24	3000W 24V hybrid inverter with 4kW solar input, 80A 500V MPPT controller, 60A mains charger & inbuilt Bluetooth (No Battery Required)	24V	3000W	9.0
IC-ZT3000-24	3000W 24V hybrid inverter with UPS zero transfer, 1.5kW solar input, 60A MPPT controller, 60A mains charger, parallel capability & Bluetooth (No Battery Required)	24V	3000W	13.0
IC3-BM5000-48	5000W 48V hybrid inverter with 4kW solar input, 80A 500V MPPT controller, 60A mains charger & Bluetooth (No battery required)	48V	5000W	10.0
IC-KMS5000-24	5000VA 24V hybrid inverter with 80A MPPT controller & 60A mains battery charger, with parallel capability	24V	4000W / 5000VA	12.5
IC-KMS5000-48	5000W 48V hybrid inverter with 80A MPPT controller & 60A mains battery charger, with parallel capability	48V	5000W	13.5
IC-ZT5000-48	5000W 48V hybrid inverter with UPS zero transfer, 4kW solar input, 80A MPPT controller, 60A mains charger, parallel capability & Bluetooth (No Battery Required)	48V	5000W	13.5
IC2-ZT5000-48	5000W 48V pure sine wave inverter with zero transfer, 6000W solar input, 100A MPPT solar controller, 100A mains charger, parallel capability and Wi-Fi	48V	5000W	12.0
IC-ZTR5000-48	5000W 48V rack-compatible pure sine wave inverter with zero transfer, 4000W solar input, 80A MPPT solar controller, 60A mains charger, parallel capability and inbuilt Wi-Fi mobile monitoring	48V	5000W	15.0
IC2-EL6000-48	6000W 48V hybrid pure sine wave inverter with 120A MPPT solar controller and 100A mains battery charger, Dual AC inputs, and built-in Wi-Fi (No Battery Required)	48V	6000W	10.3
IC4-KMS6000-48	6000W 48V hybrid pure sine wave inverter with 120A MPPT solar controller and 120A mains battery charger, with parallel capability and Wi-Fi (No Battery Required)	48V	6000W	12.0

IC2-ZT6000-48	6000W 48V pure sine wave inverter with zero transfer, 6000W solar input, 120A MPPT solar controller, 120A mains charger, parallel capability and Wi-Fi	48V	6000W	12.0
IC-MX8000-48	8000W 48V hybrid pure sine wave inverter with combined 8000W dual-input solar MPPT controller, 120A solar charging current, 120A mains battery charger, parallel capability and inbuilt Wi-Fi mobile monitoring (No battery required)	48V	8000W	18.4
IC2-MD11000-48	11000W 48V hybrid pure sine wave inverter with combined 11000W dual-input solar MPPT controller, 150A solar charging current, 150A mains battery charger, Dual AC inputs, parallel capability and inbuilt Wi-Fi mobile monitoring (no battery required)	48V	11000W	18.4
IC2-MX10000-48	10000W 48V hybrid pure sine wave inverter with 10000W solar input, dual-input 100A 500V MPPT solar controller, 150A mains battery charger, parallel capability and inbuilt Wi-Fi mobile monitoring (No battery required)	48V	10000W	20.0
IC-MX11000-48	11000W 48V hybrid pure sine wave inverter with combined 11000W dual-input solar MPPT controller, 150A solar charging current, 150A mains battery charger, parallel capability and inbuilt Wi-Fi mobile monitoring (No battery required)	48V	11000W	18.4
ICGT-IFS5500-48	5500W 48V hybrid grid tie / off grid inverter with 6.5kW 500V solar input, 2 MPPT trackers and 40A mains charger	48V	5500W	16.0
IC-WIFI	Iconica Wi-Fi remote monitoring kit	-	-	-
IC-WIFI-2	Iconica Wi-Fi wireless monitoring kit	-	-	-
IC-METER	Energy meter with LCD screen for monitoring grid-tie systems	-	-	-
IC-MODBUS	RS-485 Modbus card for interfacing grid-tie Iconica inverters to the energy meter	-	-	-
KMS-PARKIT-24	Iconica 5000VA 24V KMS series parallel connection kit	-	-	-
KMS-PARKIT-48	Iconica 4000W / 5000W 48V KMS series parallel connection kit	-	-	-

Stellar hybrid inverters

Stellar hybrid inverters are G98/G99 certified solar on-grid inverters with battery back-up. They are designed to deliver unmatched performance and flexibility, catering to diverse energy needs with their multiple operation modes. Whether you're connecting to the grid for energy export, operating off-grid for complete independence, or combining both with storage backup, Stellar inverters ensure seamless integration of these tasks. Their advanced dual input MPPT solar input offers a wide voltage range, maximizing energy harvest from large solar arrays and making them suitable for both new and retrofit residential solar installations.

Product code STG-PH3600-48

Built to endure harsh conditions, their IP65-rated, waterproof and dustproof casing ensures robust operation in varied environments. Their fanless design enhances user comfort and makes them suitable even for low-noise premises. User-friendly features, such as an LCD display with smart settings, make monitoring and configuration effortless. The inverters also support multiple communication options, including USB, RS485, and Wi-Fi, enabling remote monitoring and easy system integration. With a suite of comprehensive protection functions against over-voltage, over-frequency, over-current, over-temperature, and AC short circuits, Stellar inverters prioritise safety, while built-in Wi-Fi monitoring adds an extra layer of convenience for real-time tracking and diagnostics.

Product Code	Description	Voltage (V)	Peak Power (kW)	Weight (kg)
STG-PH3600-48	Stellar 3.6kW 48V ON/OFF Grid High Frequency Hybrid Solar Inverter	48	3.6	27
STG-PH6000-48	Stellar 6.0kW 48V ON/OFF Grid High Frequency Hybrid Solar Inverter	48	6	27

TBB Power inverters

We are proud to offer products from TBB Power, a leading provider of off-grid, mini-grid and ESS solutions. Established in 2007 and with more than 200 R&D engineers, and supported by over 100 patents and copyrights, TBB Power manufactures its products in its own industrial park certified by the ISO9001 quality management system. More than 500,000 of TBB Power systems have been manufactured and are operating stably all over the world. The products include TBB Power Renewable range and TBB Power Mobile range and they are covered by a warranty of up to 5 years.

Product code TRN-48-10K

TBB Power Renewable is a comprehensive range of products for commercial and residential off-grid, hybrid and ESS applications, enhanced with advanced digital tools for remote monitoring and control. The Nova app provides users with an online portal to remotely monitor and manage their energy systems in real time, ensuring optimal performance and efficiency. Additionally, the TBB Link PC tool simplifies the configuration, updates and monitoring of TBB Power inverters and control systems, streamlining the setup process.

RiiO-II are highly efficient inverter-chargers with Power Assist and Power Control functions, excellent no-load consumption, high power transfer current and quick transfer time of 4ms, parallel and 3-phase operation, back up, off-grid and ESS capabilities. RiiO Sun II are the all-in-one solar version of the RiiO-II inverter with an MPPT solar charge controller. Tyrann (TRN) are more powerful inverter-chargers with the dual AC inputs and outputs, ultra-fast 0ms transfer switch, AC coupling and grid feed-in.

Product code RIIO-II-48-5K

We also stock a range of TBB Power Mobile inverters designed for on-board power applications like leisure vehicles, utility vehicles, and marine use. The TBB-CM bi-directional inverter chargers offer stable performance with high peak power, high efficiency and minimal power losses, and include features like Power Assist, Power Control, powerful inbuilt mains chargers, remote switching and advanced communication, including app monitoring. The TBB-IH inverters with mains AC bypass are an excellent choice for any vehicles or boats which can connect to mains AC power input. These inverters offer up to 90% efficiency, pure sine wave output, USB charging, power-saving mode, dry contacts, bypass output with a ground relay, and WAGO terminals for quick connections.

	Product Code	Description	Batt. Voltage (V)	Peak Power (kW)	Dimensions (mm)	Weight (kg)
TBB Power Renewable range	RIIO-II-24-3K	3kW 24V inverter with 70A mains charger and 32A transfer switch	24	6	499 x 272 x 144	17
	RIIO-II-48-3K	3kW 48V inverter with 35A mains charger and 32A transfer switch	48	6	499 x 272 x 144	17
	RIIO-II-48-5K	5kW 48V inverter with 60A mains charger and 50A transfer switch	48	10	570 x 310 x 154	27
	RIIOSUN-II-24-3K	3kW 24V hybrid inverter 70A charger 80A 150V MPPT input	24	6	499 x 272 x 144	18
	RIIOSUN-II-48-5K	5kW 48V hybrid inverter 60A charger 100A 250V MPPT input	48	10	570 x 310 x 154	29
	RIIOSUN-II-48-8K	8kW 48V hybrid inverter 90A charger 100A 250V MPPT input	48	16	620 x 320 x 164	34
	TRN-48-8K	8kW 48V inverter with 110A charger, dual input/output and 50A transfer switch	48	24	620 x 320 x 164	36
	TRN-48-10K	10kW 48V inverter with 140A charger, dual input/output and 2x100A transfer switch	48	30	672 x 498 x 290	74
	TRN-48-15K	15kW 48V inverter with 200A charger, dual input/output and 2x100A transfer switch	48	45	672 x 498 x 290	80
	TBB-ELINK	Ethernet connection module for TBB Power Renewable inverters	-	-	109 x 85 x 40	0.2
	TBB-E4	4-inch LCD monitor for TBB Power Renewable inverters	-	-	115 x 80 x 30	0.2
	TBB-KIN2	TBB Power Kinergy-II Wi-Fi module	-	-	60 x 32.3 x 143	0.056
TBB Power Mobile range	TBB-CM20L	TBB Power 2000W 12V Kinergier Mobile bi-directional inverter-charger	12	4	510 x 245 x 135	17
	TBB-CM30L	TBB Power 3000W 12V Kinergier Mobile bi-directional inverter-charger	12	6	510 x 245 x 135	21
	TBB-IH1500BYP	TBB Power 1500W 12V pure sine wave inverter with AC bypass	12	1.6	403 x 256 x 99	4.6
	TBB-IH2000BYP	TBB Power 2000W 12V pure sine wave inverter with AC bypass	12	2.15	403 x 256 x 99	4.8
	TBB-MCK	TBB Power remote monitoring and control panel for CM inverter-chargers	-	-	110 x 93 x 31	0.1
	TBB-RBYP	Remote control for IH-BYP inverters (black)	-	-	58 x 58	0.4

Victron inverters

When making their inverters, like their solar charge controllers, Victron sets unprecedented standards and creates innovative designs to make off-grid electrical operations reliable, efficient and easy.

Product code VPX800-12

The Phoenix inverters use an advanced monitoring systems through the VE. Port which allows for connection to a PC/Laptop to access the free VictronConnect software (requires VE.Direct to USB cable). Alternatively, an additional VE.Direct Bluetooth dongle may be connected in order to wirelessly connect a smartphone/tablet to the inverter via the VictronConnect app.

Phoenix features

- Excellent peak power handling: at least double nominal power for a few seconds
- Superior build quality: includes a toroidal transformer which works at a high efficiency with a cooler operating temperature
- Power-saving ECO mode: switches the inverter to standby when load power falls below a pre-set value

Product code VMPLUS-1200-50

The MultiPlus inverters come with the smart 4-stage battery algorithm designed for safe and efficient unattended charging for various battery types. Up to six of these Victron MultiPlus inverters can be connected in parallel to achieve one combined AC output. This unique product allows the user to easily upgrade the power of their existing system, rather than replacing existing inverters.

Multiplus features

- Uninterruptible power supply (UPS): the inverter automatically activates to take over the supply in the event of a grid failure (less than 20 ms activation)
- Comprehensive electronic protection functions: protects against short circuits, overload, battery overvoltage and undervoltage, overheating etc.
- Wide selection of charging priority features including PowerAssist and PowerControl

	Product Code	Description	Voltage (V)	Peak Power (W)	Dimensions (mm)
Victron Phoenix	VPX250-12	200W 12V Phoenix Inverter	12	400	2.4
	VPX375-12	300W 12V Phoenix Inverter	12	600	3.0
	VPX500-12	400W 12V Phoenix Inverter	12	900	3.9
	VPX800-12	650W 12V Phoenix Inverter	12	1500	5.5
	VPX1200-12	1000W 12V Phoenix Inverter	12	2200	7.4
Victron MultiPlus	VMPLUS-500-20	430W 12V MultiPlus inverter with 20A battery charger	12	900	4.4
	VMPLUS-800-35	700W 12V MultiPlus inverter with 35A battery charger	12	1600	6.4
	VMPLUS-1200-50	1000W 12V MultiPlus inverter with 50A battery charger	12	2400	8.2
	VMPLUS-1600-70	1300W 12V MultiPlus inverter with 70A battery charger	12	2800	10.2
	VMPLUS-2000-80	1600W 12V MultiPlus inverter with 80A battery charger	12	3500	15.5
	VMPLUS3000-120	2400W 12V MultiPlus inverter with 120A battery charger	12	6000	18.0
Victron MultiPlus - II	VMPLUS-II-48-3000	2400W 48V MultiPlus inverter with 35A battery charger	48	5500	19.0
	VMPLUS-II-24-3000	2400W 24V MultiPlus inverter with 70A battery charger	24	5500	19.0
	VMPLUS-II-3000-120	2400W 12V MultiPlus inverter with 120A battery charger	12	5500	19.0
	VMPLUS-II-48-5000	4000W 48V MultiPlus inverter with 70A battery charger	48	9000	30.0
	VMPLUS-II-24-5000	4000W 24V MultiPlus inverter with 120A battery charger	24	9000	30.0

LiFePO4 batteries

LiFePO4 batteries use lithium iron phosphate as their key component, offering improved thermal stability, enhanced safety, and high energy density. Efficient and maintenance-free with minimal self-discharge, they are ideal for various applications. LiFePO4 batteries also deliver a longer lifespan and greater cycle stability compared to lithium-ion and lead-acid batteries.

Photonic Universe batteries

Our 12V to 48V range of LiFePO4 batteries includes standard lead acid replacement packs, rack-mounted and wall-mounted options, suitable for transport, mobile, off-grid, ESS, household and other applications. The 12V batteries can be used in banks with up to 4 batteries in parallel, and 48V batteries can be paralleled with up to 15 units. 48V batteries are also compatible with a wide range of inverters and BMS communication options.

Product code LFP48-100R

Product code ES100II

Product code PS5

Product code: TBB-M12100

TBB Power batteries

TBB Power LiFePO4 battery modules are an excellent choice for TBB Power and other renewable energy, backup, off-grid, ESS systems, residential and commercial systems. The ES100II module can be stacked on brackets ES-BR or mounted in the ES-CABINET with up to 4 modules, with the total up to 32 modules which can be connected in the same bank. The range also includes PS5 and PS10 wall-mounted batteries with IP65 protection rating suitable for both indoor and outdoor use, with up to 32 (PS5) / 16 (PS10) paralleled units. The TBB Power M12 lithium batteries are high-performance batteries for any mobile, off-grid, back-up or remote 12V application. They feature a powerful battery management system (BMS) with the best-in-class continuous current (A) rating. They also boast a built-in low temperature heating function, making them perfectly suitable for installations in cold locations or unheated premises.

Product Code	Description	Capacity (Ah)	Voltage (V)	Dimensions (mm)	Weight (kg)
LFP12-100	12V 100Ah Photonic Universe LiFePO4 battery	100	12	339 x 185 x 218	12
LFP12-200	12V 200Ah Photonic Universe LiFePO4 battery	200	12	502 x 186 x 243	23
TBB-M12100	12V 100Ah TBB Power LiFePO4 battery with heating and 200A BMS current	105	12	310 x 165 x 187	11
TBB-M12200	12V 200Ah TBB Power LiFePO4 battery with heating and 300A BMS current	200	12	380 x 230 x 328	25.5
TBB-M12400	12V 400Ah TBB Power LiFePO4 battery with heating and 300A BMS current	400	12	462 x 237 x 326.5	42.5
TBB-DTU	TBB Power Bluetooth communication module for 12V LiFePO4 batteries	-	-	58 x 43 x 14	0.1
TBB-BM500	TBB Power 500A 12V/24V/48V battery shunt	-	-	60.4 x 50.8 x 17.2	0.3
LFP48-100R	48V 100Ah Photonic Universe rack-mounted LiFePO4 battery	100	48	482 x 480 x 133	44
LFP48-100W	48V 100Ah Photonic Universe wall-mounted LiFePO4 battery	100	48	580 x 490 x 145	44
ES100II	48V 105Ah TBB Power rack-mounted LiFePO4 battery	105	48	483 x 133 x 450	40
PS5	48V 105Ah TBB Power wall-mounted LiFePO4 battery IP65	105	48	484 x 726 x 195	54
PS10	48V 210Ah TBB Power wall-mounted LiFePO4 battery IP65	210	48	484 x 968 x 195	94
ES-CABINET	Battery cabinet for up to 4 TBB Power rack mounted batteries	-	-	570 x 600 x 800	43
ES-BR	Stackable brackets for up to 4 TBB Power rack mounted batteries	-	-	-	-

Lead-acid batteries

We have special deep cycle batteries in our product range which are perfect for our solar power systems or leisure applications. These batteries perform well in deep discharge conditions and have a low self-discharge rate.

AGM

AGM – stands for Absorbed Glass Mat. This is a battery in which all electrolyte is absorbed into a special sponge made of glass fibre.

This advanced technology ensures that AGM batteries are non-spillable, completely sealed and maintenance free – they are one of the safest batteries you can find.

They have a much longer service life compared to standard wet-cell batteries due to lower degradation and corrosion inside the battery.

Product code AGM100AH

Product code GEL100AH

Product code GEL200AH

Gel

Gel is a type of Valve Regulated Lead Acid (VRLA) battery filled with special gel-type electrolyte.

Being non-spillable and completely sealed, they have better recovery from deep discharge compared to AGM batteries and a lower self-discharge rate; making them a reliable choice for solar, wind, or combined energy storage.

Gel batteries are well-known for being able to handle cold temperatures, as low as minus 10°C, so they are typically the best choice for unheated premises or outdoor applications.

We offer our Gel batteries in two sizes for different sized applications.

Product Code	Description	Dimensions (mm)	Weight (kg)
AGM100AH	100Ah 12V AGM deep-cycle battery	331 x 173 x 224	30
GEL100AH	100Ah 12V Gel deep-cycle battery	331 x 173 x 224	30
GEL200AH	200Ah 12V Gel deep-cycle battery	523 x 239 x 243	61.5

Lead-acid battery banks

In addition to 12V batteries, we offer complete battery banks consisting of 2V deep cycle AGM batteries. These banks of 2V batteries offer important benefits compared to banks made of 12V batteries:

- All 2V batteries are connected in series, which reduces the risk of a disbalanced charge in the bank and significantly improves longevity
- Thicker plates in 2V batteries enhance their deep cycle capabilities allowing more energy to be taken from the bank

Product code AGM500AH-6SET

Product code AGM300AH-12SET

We offer a range of battery banks made of 2V 300Ah or 500Ah AGM deep cycle batteries. Our 300Ah battery banks include a 3.6kWh 12V (300Ah) bank made of 6 batteries, and a 7.2kWh 24V (300Ah) bank made of 12 batteries. Our 500Ah battery banks include a 6kWh 12V (500Ah) bank made of 12 batteries and a 12kWh 24V (500AH) bank made of 12 batteries.These battery banks are supplied with specially designed metal connectors to link batteries together and keep energy losses / disbalance to a minimum.

Our premium energy storage solution includes a 24kWh 48V AGM deep cycle battery bank consisting of 24 x 2V 500Ah deep cycle AGM batteries. This long-lasting battery bank delivers outstanding performance similar to more expensive energy storage technologies at a fraction of the cost. Comes complete with the necessary connectors and metal racking.

Product code AGM500AH-24SETR

Product Code	Description	Capacity	Cycle life	Size
AGM300AH-6SET	12V 300Ah AGM deep cycle battery bank (6 x 2V batteries)	3.6kWh	1000	911 x 151 x 365 mm
AGM300AH-12SET	24V 300Ah AGM deep cycle battery bank (12 x 2V batteries)	7.2kWh	1000	1835 x 171 x 365 mm
AGM500AH-6SET	12V 500Ah AGM deep cycle battery bank (6 x 2V batteries)	6 kWh	1,200	1150 x 250 x 370 mm
AGM500AH-12SET	24V 500Ah AGM deep cycle battery bank (12 x 2V batteries)	12 kWh	1,200	1150 x 500 x 370 mm
AGM500AH-24SETR	48V 500Ah AGM deep cycle battery bank with metal racking (24 x 2V batteries)	24 kWh	1,200	1290 x 670 x 1140 mm

Mains battery chargers, protectors and monitors

Our range of high quality battery chargers and monitors are the perfect addition to any system; offering numerous possibilities for the charging and energy monitoring process. We supply a varied selection of battery chargers and monitors - ranging from our cost-effective BC chargers to premium offerings from one of the leading global manufacturers Victron.

Product code BC1210

Mains battery chargers

Offering safe and efficient charging of your batteries from a 230V mains source, these chargers are ideal for keeping batteries optimally charged and for potentially extending their service life. They are capable of unattended charging with added protection against overload, overheating, overvoltage, short circuit, incorrect polarity, and reverse discharge of the battery.

Battery protectors

Battery protectors prevent the battery from over discharging by automatically disconnecting the loads when the battery voltage becomes too low. This preserves the battery health and improves its life expectancy.

Battery monitors and communication units

Product code BMV-712

Victron high precision battery monitors are compatible with Lithium batteries and display additional advanced parameters such as state of charge, time to go and power consumption (W). Victron Smart monitors and SmartShunts feature inbuilt Bluetooth for the user to monitor their batteries remotely via smartphone and even program alarms. Victron Smart monitors also store detailed data logs for the batteries, available to view at any time. The Victron Cerbo GX allows you to monitor your power system remotely or on display. Simply connect to it through the Victron Remote Management (VRM) portal or connect to separate multifunctional display (GX Touch).

	Product Code	Description	Size (mm)
Photonic Universe mains battery chargers	BC1210	10A 12V automatic multi-stage mains battery charger	176 x 175 x 95
	BC1220	20A 12V automatic multi-stage mains battery charger	176 x 175 x 95
	BC2410	10A 24V automatic multi-stage mains battery charger	176 x 175 x 95
	BC2420	20A 24V automatic multi-stage mains battery charger	226 x 175 x 95

	BC1240	40A 12V automatic multi-stage mains battery charger	226 x 175 x 95
	BC1260	60A 12V automatic multi-stage mains battery charger	226 x 175 x 95
	BC1230PRO	30A 12V smart multi-stage mains battery charger	221 x 155 x 70
	BC1260PRO	60A 12V smart multi-stage mains battery charger	221 x 155 x 70
	BC2415PRO	15A 24V smart multi-stage mains battery charger	221 x 155 x 70
	BC4810PRO	10A 48V smart multi-stage mains battery charger	221 x 155 x 70
	ACDC-TS	Remote temperature sensor for AC to DC chargers with 3m cable	-
Victron mains battery chargers	VBC1215	Victron 15A 12V Blue Smart IP22 mains battery charger with Bluetooth connectivity	235 x 108 x 65
	VBC1220	Victron 20A 12V Blue Smart IP22 mains battery charger with Bluetooth connectivity	235 x 108 x 65
	VBC1230	Victron 30A 12V Blue Smart IP22 mains battery charger with Bluetooth connectivity	235 x 108 x 65
	VBC2416	Victron 16A 24V Blue Smart IP22 mains battery charger with Bluetooth connectivity	235 x 108 x 65
	VBC1215WP	Victron 15A 12V Blue Smart IP65 mains battery charger with Bluetooth connectivity	60 x 105 x 190
	VBC1225WP	Victron 25A 12V Blue Smart IP65 mains battery charger with Bluetooth connectivity	75 x 140 x 240
Battery protectors	VE-BPR65	Victron BatteryProtect 65A 12V/24V battery over discharge protector BP-65	40 x 48 x 106
	VE-SBPR65	Victron Smart BatteryProtect 65A 12V/24V battery over discharge protector SBP-65 with inbuilt Bluetooth	40 x 48 x 106
	VE-BPR100	Victron BatteryProtect 100A 12V/24V battery over discharge protector BP-100	59 x 42 x 115
	VE-SBPR100	Victron Smart BatteryProtect 100A 12V/24V battery over discharge protector SBP-100 with inbuilt Bluetooth	59 x 42 x 115
	VE-BPR220	Victron BatteryProtect 220A 12V/24V battery over discharge protector BP-220	62 x 123 x 120
	VE-SBPR220	Victron Smart BatteryProtect 220A 12V/24V battery over discharge protector SBP-220 with inbuilt Bluetooth	62 x 123 x 120
Battery monitors	BMV-700	Victron 500A 12V/24V/48V Battery Monitor	69 x 69 (monitor)
	BMV-712	Victron 500A 12V/24V/48V Smart Battery Monitor with inbuilt Bluetooth	69 x 69 (monitor)
	VS500S	Victron 500A 12V/24V/48V Battery Monitoring SmartShunt with Inbuilt Bluetooth	120 x 46 x 54
	VS1000S	Victron 1000A 12V/24V/48V Battery Monitoring SmartShunt with Inbuilt Bluetooth	120 x 68 x 54
	VS2000S	Victron 2000A 12V/24V/48V Battery Monitoring SmartShunt with Inbuilt Bluetooth	120 x 68 x 76
	VE-CERGX	Victron Energy Cerbo GX communication unit for Victron systems	78 x 154 x 48
	VE-GXTOUCH50	Victron Energy GX Touch 50 Touchscreen Display Accessory for Cerbo GX	87 x 128 x 12.4
	VE-GXTOUCH70	Victron Energy GX Touch 70 Touchscreen Display Accessory for Cerbo GX	113 x 176 x 13.5
	VE-GXMOUNT50	Wall Mount for Victron GX Touch 5 inch display	-
	VE-GXMOUNT70	Wall Mount for Victron GX Touch 7 inch display	-

DC to DC battery chargers

Our intelligent DC to DC battery chargers are designed to optimise energy transfer between batteries, ensuring efficient power management in systems with multiple power sources. These chargers automatically divert charging current from a primary battery, which is being charged by a constant energy source such as solar panels, mains power, or an alternator, to a secondary target battery.

Product code DCDC-20A

DC to DC chargers are vital in leisure vehicles such as caravans, campervans, and motorhomes, to ensure that the leisure battery, which powers onboard appliances, stays charged from the vehicle's starter battery or alternator. This setup allows travellers to enjoy extended periods off-grid without worrying about battery depletion. Additionally, when combined with solar panels or other renewable energy sources, the system provides a self-sustaining power solution for long journeys.

Product code DC1212-30S

For commercial vehicles, such as trucks, vans, and emergency service vehicles, DC to DC chargers play a critical role in maintaining reliable power for equipment and auxiliary systems. In delivery vehicles, for example, these chargers help ensure that refrigeration units, tail lifts or other essential devices remain powered throughout the day, independent of the engine's operation. By integrating or retrofitting DC to DC chargers into these vehicles, businesses can increase efficiency, reduce downtime, and extend the lifespan of both the primary and secondary batteries.

Product code DC1212-3020

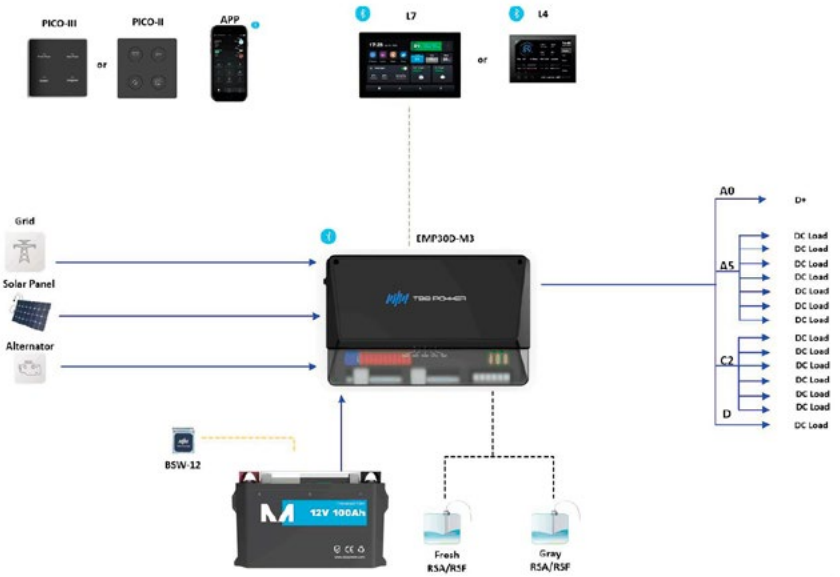
	Product Code	Description	Size (mm)
Photonic Universe DC to DC battery chargers	DCDC-20A	20A 12V DC to 12V DC battery charger with 20A solar input	210 x 130 x 40
	DCDC-40A	40A 12V DC to 12V DC battery charger with 40A solar input	210 x 130 x 40
	DC1212-30S	30A 12V DC to 12V DC smart battery charger	147 x 142 x 41
	DC1212-45S	45A 12V DC to 12V DC smart battery charger	147 x 156 x 41
	DC1212-30	30A 12V DC to 12V DC smart battery charger	190 x 194 x 70
	DC1212-60	60A 12V DC to 12V DC smart battery charger	190 x 215 x 70
	DC1212-90	90A 12V DC to 12V DC smart battery charger	190 x 241 x 72
	DC1212-3020	30A 12V DC to 12V DC smart battery charger with 20A MPPT solar input	190 x 194 x 70
	DC1212-3020FR	30A 12V DC to 12V DC smart battery charger with 20A MPPT solar input and 20A fridge output	190 x 194 x 72
	DC1212-6030	60A 12V DC to 12V DC smart battery charger with 30A MPPT solar input	190 x 194 x 70
	DC1212-6045	60A 12V DC to 12V DC smart battery charger with 45A MPPT solar input	190 x 194 x 70

	DCTRIPLE-30	30A 12V DC to 12V DC triple input smart battery charger with 20A AC input and 20A MPPT solar input	234 x 285 x 74
	DCTRIPLE-60	60A 12V DC to 12V DC triple input smart battery charger with 40A AC input and 30A MPPT solar input	234 x 285 x 74
	DC1224-25	25A 12V DC to 24V DC smart battery charger	190 x 215 x 70
	DC2424-50	50A 24V DC to 24V DC smart battery charger	190 x 215 x 70
	DC2412-60	60A 24V DC to 12V DC smart battery charger	190 x 215 x 70
	DC1248-16	16A 12V DC to 48V DC smart battery charger	215 x 190 x 72
	ACDC-RM	Remote meter with 5m cable	95 x 95
	DCDC-TS	Remote temperature sensor for DC to DC chargers with 3m cable	-
	ACDC-BT	External Bluetooth dongle for mains chargers and DC to DC chargers	-
TBB Power DC to DC battery chargers	TBB-DM1220	TBB Power 20A 12V DC to 12V DC charger	181 x 148 x 52
	TBB-DM1230	TBB Power 30A 12V DC to 12V DC charger	181 x 148 x 52
	TBB-DM1245	TBB Power 45A 12V DC to 12V DC charger	181 x 148 x 52
	TBB-DM1260	TBB Power 60A 12V DC to 12V DC charger	181 x 148 x 67
Victron DC to DC battery chargers	VOS1212-18I	Victron 18A 12V DC to 12V DC battery charger with Bluetooth connectivity and galvanic isolation	130 x 186 x 70
	VOS2412-20I	Victron 20A 24V DC to 12V DC battery charger with Bluetooth connectivity and galvanic isolation	130 x 186 x 70
	VOS1212-30NI	Victron Orion Smart 30A 12V DC to 12V DC battery charger with Bluetooth connectivity	130 x 186 x 80
	VOS2412-30NI	Victron Orion Smart 30A 24V DC to 12V DC battery charger with Bluetooth connectivity	130 x 186 x 80
	VOS1212-30I	Victron Orion 30A 12V DC to 12V DC battery charger with Bluetooth connectivity and galvanic isolation	130 x 186 x 80
	VOS1212-50XS	Victron Orion XS 50A 12V DC to 12V DC battery charger with Bluetooth connectivity	137 x 123 x 40

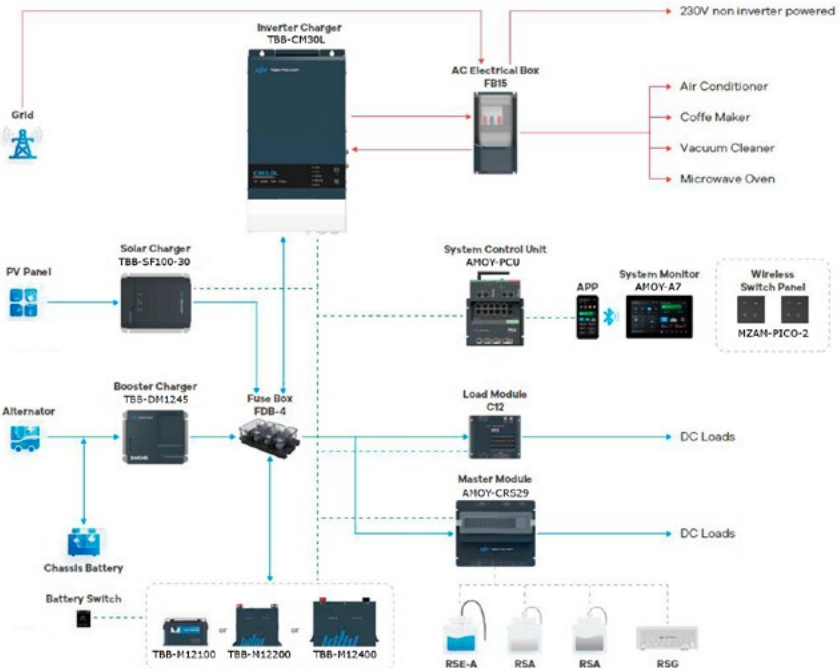
TBB Power Mobile integrated systems

We are proud to offer a range of highly integrated TBB Power Mobile systems and solutions for leisure vehicles. These kits feature multiple components and functions such as a mains battery charger, MPPT solar controller, battery with a management system, display, digital switching, water tank management, an inverter or inverter charger, all linked through a central communication unit. They represent complete leisure vehicle power solutions, offering excellent integration along with advanced display and app monitoring and control capabilities.

The Mezzo mobile power kit is designed specifically for campervans and small motorhomes, incorporating cutting-edge technologies such as digital switching, wireless control, Bluetooth, touchscreen display, and lithium batteries. With its fully integrated master power module, the Mezzo kit significantly reduces space, installation time, and costs for campervan and motorhome builders, while maximising the end user convenience. The master power module includes an AC battery charger, MPPT solar charge controller, battery management, digital switching, and water tank measurement.



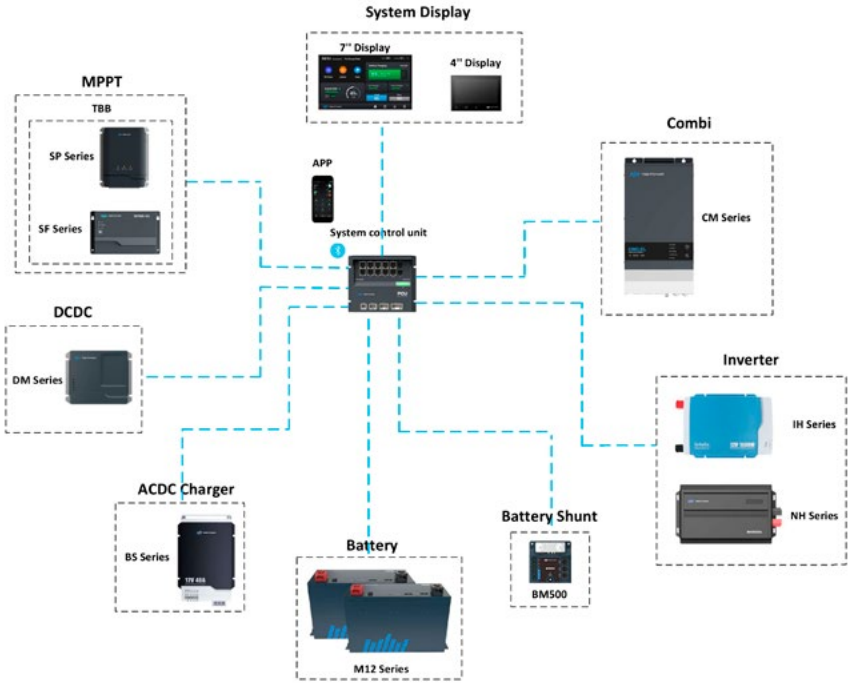
Complete Mezzo System



Complete Amoy System

The Amoy complete mobile power kit is an all-in-one, high-performance on-board energy system designed for larger motorhomes, leisure vehicles, catering vans, and other vehicle conversions with high power needs. This solution includes a powerful inverter charger, DC-DC battery charger, MPPT solar charge controller, lithium battery, touchscreen LCD display, digital switching, load outputs and water tank measurement. Amoy is designed to seamlessly combine grid and battery power, allowing for heavy appliance use even with limited shore power, so users can enjoy all the comforts of home wherever they are.

The Inverter Pack is a versatile and modular energy storage solution that does not include digital switching. It is suitable for both new vehicle conversions, retrofitting existing vehicles, or even for general off-grid and standalone systems, including stationary applications. This solution can be used to replace traditional generators with modern technologies such as a large lithium battery with a powerful bi-directional inverter charger, or an inverter with an AC bypass. The Inverter Pack can utilise multiple optional energy inputs, including charging from mains, an MPPT solar charge controller, a Euro 6 compatible DC-DC charger, all fully integrated through a central communication unit for LCD display or app monitoring.



Inverter Pack System

In addition to the TBB Power solar charge controllers, inverters and batteries already referenced in other sections of this catalogue, the table below provides the list of other TBB Power products typically included in the Mezzo, Amoy and Inverter Pack systems:

	Product Code	Description
Mezzo	MZ3-EMP30D	TBB Power Mezzo III master power module with 30A AC charger, 30A MPPT solar charger, VCR and digital switching
	MZ3-HARNESS	TBB Power Mezzo III system harness
	MZ3-L4	TBB Power 4" LCD panel for Mezzo III with Bluetooth
	MZ3-L7	TBB Power 7" LCD panel for Mezzo III with Bluetooth
Amoy	AMOY-PCU	TBB Power Amoy PCU system control unit
	AMOY-CRS29	TBB Power Amoy CRS29 master module
	AMOY-A7	TBB Power Amoy 7" LCD system monitor with communication
	AMOY-HARNESS	TBB Power Amoy system harness
Mezzo and Amoy	MZAM-PICO-2	TBB Power PICO-2 wireless switching panel (for Mezzo / Amoy systems)
	MZAM-RSA	TBB Power RSA conductive type water tank sensor (for Mezzo / Amoy systems)
	MZAM-RSE-A	TBB Power RSE-A capacitive type water tank sensor (for Mezzo / Amoy systems)
	MZAM-GY485	TBB Power levelling sensor (for Mezzo / Amoy systems)
Inverter Pack	INPK-C4	TBB Power inverter pack 4" LCD and control panel with Bluetooth
	INPK-HARNESS	TBB Power inverter pack harness with a hub adapter

Wind turbines and controllers

If you need more power for your battery but can't upgrade your solar panels, or if you would like to maximise winter output when the sunlight is limited, a wind turbine is the perfect solution for your off-grid power system.

Wind turbines can be used either as a standalone source of power for your battery bank, or as a supplementary charging source in addition to your solar kit.

We offer various types of wind turbines for 12V, 24V and 48V battery banks to suit any application.

Product code WTJ400-12

Product code WTN600-24

Our 12V wind turbines include 200W, 300W and 400W models. Simple and efficient, they feature a 5-blade construction to deliver good results even in low wind speeds.

Wind turbines for 24V batteries in our catalogue include a standard 3-blade 600W WTJ model for high winds, as well as a premium 3-blade 600W WTN model with a special tail furling mechanism for protection against high winds.

Our large 1kW, 2kW and 3kW wind turbines are built for 48V battery banks, making them ideal for off-grid household power kits and similar power systems.

These wind turbines have a special tail furling construction: an advanced aerodynamic safety feature which allows them to withstand abnormally high winds safely.

Product code WTD2000-48

Product code HCM1000-48-48

Wind turbines generate AC output and therefore require a special wind or hybrid (wind + solar) charge controller.

Our high quality wind controllers seamlessly convert AC three-phase output from a wind turbine into DC output, ready for charging a battery bank with a full range of protection functions.

	Product Code	Description	Nominal voltage	Rotor diameter (m)	Weight (kg)
Wind Turbines	WTJ200-12	200W 12V wind turbine with 5 blades	12V	1.2	7.5
	WTJ300-12	300W 12V wind turbine with 5 blades	12V	1.2	7.5
	WTJ400-12	400W 12V wind turbine with 5 blades	12V	1.5	12.0
	WTJ600-24	600W 24V wind turbine with 3 blades	24V	1.7	16.0
	WTN600-24	600W 24V wind turbine with 3 blades and tail furling mechanism	24V	2.1	26.0
	WTD1000-48	1000W 48V wind turbine with 3 blades and tail furling mechanism	48V	3.2	50.0
	WTD2000-48	2000W 48V wind turbine with 3 blades and tail furling mechanism	48V	3.8	75.0
	WTD3000-120	3000W 120V wind turbine with 3 blades and tail furling mechanism	120V	3.8	75.0

	Product Code	Description	Nominal voltage	Dimensions (mm)	Max rating
Waterproof wind charge controllers	FW03-12	300W 12V waterproof wind charge controller	12V	100 x 87 x 28	300W (wind)
	FW04-12	400W 12V waterproof wind charge controller	12V	150 x 87 x 28	400W (wind)
	FW06-24	600W 24V waterproof wind charge controller	24V	100 x 87 x 28	600W (wind)
Hybrid wind MPPT and solar controllers	HCM400-12-12	400W 12V hybrid wind MPPT charge controller with 200W solar input	12V	150 x 220 x 83	400W (wind)/ 200W (solar)
	HCM600-24-24	600W 24V hybrid wind MPPT charge controller with 300W solar input	24V	150 x 220 x 83	600W (wind)/ 300W (solar)
Wind MPPT charge controllers	HCM1000-48-48	1000W 48V MPPT wind charge controller with dump load	48V	360 x 80 x 120	1000W (wind)
	HCM2000-48-48	2000W 48V MPPT wind charge controller with dump load	48V	400 x 300 x 210	2000W (wind)
	HCM3000-48-240	3000W 48V MPPT wind charge controller with dump load	48V	360 x 440 x 195	3000W (wind)

Complete Off-Grid Solar Power Systems

Photonic Universe complete off-grid solar power systems are the ideal option for applications requiring a reliable and constant source of electricity to power various household appliances or industrial equipment.

These off-grid power systems typically range from 250W to 3000W of solar power, with varying options for solar arrays, battery storage and inverters.

All of the following solar power systems come equipped with our state-of-the-art Iconica hybrid pure sine wave inverters, which intelligently combine the functions of a pure sine wave inverter, a solar charge controller and a smart mains battery charger in one single unit.

The table below provides some examples of our large solar power systems with nominal output of 1kW up to 5kW. We can also offer more powerful large off-grid solar power systems with up to 45kW output - both single phase and 3-phase - depending on your requirements.

Product code KIT1K-250-2

Product code KIT5K-2K-24KWH

Product Code	Description
KIT1K-250-2	250W 12V Complete off-grid solar power system with 250W solar panel, 1kW hybrid inverter, 2 x 100Ah batteries and cables
KIT2K-550-2	550W 24V Complete off-grid solar power system with 550W solar panels, 2kW hybrid inverter, 2 x 100Ah batteries and cables
KIT3K-550-4	550W 24V Complete off-grid solar power system with 550W solar panels, 3kW hybrid inverter, 4 x 100Ah batteries and cables
KIT3K-1100-6	1.1kW 24V Complete off-grid solar power system with 1.1kW solar panels, 3kW hybrid inverter, 6 x 100Ah batteries and cables
KIT3K-1440-7KWH	1.4kW 24V Complete off-grid solar power system with 1.4kW solar panels, 3kW hybrid inverter, 7kWh battery bank and cables
KIT3K-2K-12KWH	2kW 24V Complete off-grid solar power system with 2kW solar panels, 3kW hybrid inverter, 12kWh battery bank and cables
KIT5K-2K-24KWH	2kW 48V Complete off-grid solar power system with 2kW solar panels, 5kW hybrid inverter, 24kWh battery bank and cables
KIT5K-3K-24KWH	3kW 48V Complete off-grid solar power system with 3kW solar panels, 5kW hybrid inverter, 24kWh battery bank and cables

Uninterrupted Power Supply (UPS) Systems

Photonic Universe range of UPS systems are suitable for both mains-powered and off-grid applications where a stable and reliable source of AC power is required. Ideal for running personal computers, small office appliances, broadband, Wi-Fi, any other IT equipment or essential electronics.

In a mains-powered setup, UPS systems ensure that the AC appliances are not interrupted even if the mains electricity is unstable, intermittent or the power is suddenly cut off. While the mains power is available, the system links it to the AC output to power connected appliances whilst simultaneously charging the batteries, or keeping them topped up. If the mains power is suddenly cut off, the system instantly transfers the power input to the batteries and starts drawing energy from them so that the load work is not interrupted.

Product code UPS-3K-24

Product code UPS2-ZT5K-48

We offer a range of UPS systems from 1kW to 30kW, with various battery options from 1.2kWh gel deep-cycle battery to 24kWh battery banks. In addition to a single phase, some of our large UPS systems can be configured in a 3-phase AC output, making them suitable for not only for household / light industrial use, but also industrial and commercial applications.

Our range of zero transfer UPS systems allow for instant switching from mains to battery backup power, without the typical delay of 10-20ms.

If required the output of our large UPS systems can be expanded further up to 45kW of continuous power. The external battery banks also allow for easy expansion or replacement, as well as straight-forward installation in irregular locations. Each UPS system from our range includes battery cables, terminals and over-current protection.

Product Code	Description
UPS-1K-12	1kW UPS System with 1.2kWh energy storage • UPS unit, 100Ah gel deep-cycle battery
UPS-2K-24	2kW UPS System with 2.4kWh energy storage • UPS unit, 2 x 100Ah gel deep-cycle batteries
UPS-3K-24	3kW UPS System with 4.8kWh energy storage • UPS unit, 2 x 200Ah gel deep-cycle batteries

UPS-ZT3K-24	3kW Zero-Transfer UPS System with 4.8kWh energy storage • UPS unit, 2 x 200Ah gel deep-cycle batteries
UPS-ZT5K-48	5kW Zero-Transfer UPS System with 9.6kWh energy storage • UPS unit, 4 x 200Ah gel deep-cycle batteries
UPS2-KMS4K-48	8kW UPS System with 19.2kWh energy storage • 2 x UPS units, 2 x parallel connection kits, 8 x 200Ah gel deep-cycle batteries
UPS2-ZT5K-48	10kW Zero-Transfer UPS System with 24kWh energy storage • 2 x UPS units, 2 x parallel connection kits, 24kWh 500Ah battery bank
UPS3-ZT5K-48	15kW Zero-Transfer UPS System with 24kWh energy storage • 3 x UPS units, 3 x parallel connection kits, 24kWh 500Ah battery bank
UPS4-ZT5K-48	20kW Zero-Transfer UPS System with 48kWh energy storage • 4 x UPS units, 4 x parallel connection kits, 2 x 24kWh 500Ah battery banks
UPS6-ZT5K-48	30kW Zero-Transfer UPS System with 48kWh energy storage • 6 x UPS units, 6 x parallel connection kits, 2 x 24kWh 500Ah battery banks

Grid-Tie Wind and Solar Power Kits

Photonic Universe's complete grid-tie solar and wind power systems are designed to seamlessly integrate with the national power grid, offering a comprehensive solution for users. These systems are especially beneficial for customers with high electricity consumption, such as when using electric and plug-in vehicles, swimming pools, air conditioners, and heat pumps.

All of the following power systems come equipped with our state-of- the-art Iconica hybrid grid-tie inverter, which offers the possibility to feed power back to the grid, as well as to a battery or connected load. Various operating modes of the inverter allow the user to choose between Grid-tie function + Off grid back-up, Grid-tie alone, or Off-grid alone. These power systems typically range from 2.1kW to 6.5kW of solar and 1kW to 3kW of wind power with varying options for solar arrays and battery storage, but can also be designed by us in a bespoke way to suit the needs of a particular application.

Product code GTKIT-2100

Product code WINDSOLKIT-1000

Product Code	Description
GTKIT-2100	2.1kW grid-tie solar power kit with 5.5kW hybrid inverter and 9.6kWh battery bank
GTKIT-3600	3.6kW grid-tie solar power kit with 5.5kW hybrid inverter and 24kWh battery bank
GTKIT-2300P	Premium 2.3kW grid-tie solar power kit with LG solar panels, 5.5kW hybrid inverter and 9.6kWh battery bank
GTKIT-3800P	Premium 3.8kW grid-tie solar power kit with LG solar panels, 5.5kW hybrid inverter and 24kWh battery bank
SCKIT-5300P	Premium 5.3kW grid-tie self-consumption solar power kit with LG solar panels, 5.5kW hybrid inverter and 24kWh battery bank
SCKIT-6500P	Premium 6.5kW grid-tie self-consumption solar power kit with Sharp solar panels, 5.5kW hybrid inverter and 24kWh battery bank
WINDKIT-1000	1kW grid-tie wind turbine kit with 5.5kW hybrid inverter and 24kWh battery bank for export of wind power into the grid
WINDKIT-2000	2kW grid-tie wind turbine kit with 5.5kW hybrid inverter and 24kWh battery bank for export of wind power into the grid
WINDKIT-3000	3kW grid-tie wind turbine kit with 5.5kW hybrid inverter and 24kWh battery bank for export of wind power into the grid
WINDSOLKIT-1000	1kW grid-tie wind power kit with 3.2kW Sharp solar panels, 5.5kW hybrid inverter and 24kWh battery bank
WINDSOLKIT-2000	2kW grid-tie wind power kit with 5.4kW Sharp solar panels, 5.5kW hybrid inverter and 24kWh battery bank
WINDSOLKIT-3000	3kW grid-tie wind power kit with 6.5kW Sharp solar panels, 5.5kW hybrid inverter and 24kWh battery bank

Solar Lighting Systems

Ideal for places with no mains electricity and a requirement for lights, these solar lighting kits are the complete package. Included items are a solar panel with cable, control unit (with a battery, switches and LED indicators) and lights with individual cables and switches. Our solar lighting systems are supplied with either a lead-acid or a lithium battery.

Product code SL-L18AH-50W

Product code SL-15W

Product code SL-L18AH-CH

SL-15W solar lighting system in a yurt

- 'Plug and Play' installation makes this kit very easy to connect and use
- Control unit has a USB port to charge mobile phones and power USB-compatible devices
- Ideal for places with no access to mains electricity such as garages, sheds, outhouses, stables, barns and other off-grid buildings.

	Product Code	Description	Dimensions (mm)	Weight (kg)
Lead-acid battery	SL-15W	15W lighting kit with 4 x 3W LED lights	265 x 410 x 20 (panel)	6.5
	SL-25W	25W lighting kit with 4 x 3W LED lights	510 x 350 x 20 (panel)	9.5
Lithium battery	SL-L18AH-CH	Lighting kit with mains adaptor, 4 x 5W LED Lights, Solar Charge Controller and Lithium Battery	220 x 130 x 150 (control unit)	6.9
	SL-L18AH-40W	40W lighting kit with 4 x 5W LED Lights, Solar Charge Controller and Lithium Battery	705 x 345 x 25 (panel)	10.4
	SL-L18AH-50W	50W lighting kit with 4 x 5W LED Lights, Solar Charge Controller and Lithium Battery	590 x 505 x 25 (panel)	11.1
	SL-L18AH-60W	60W lighting kit with 4 x 5W LED Lights, Solar Charge Controller and Lithium Battery	690 x 505 x 25 (panel)	11.8
	SL-L18AH-80W	80W lighting kit with 4 x 5W LED Lights, Solar Charge Controller and Lithium Battery	700 x 670 x 30 (panel)	12.9
	SL-L18AH-100W	100W lighting kit with 4 x 5W LED Lights, Solar Charge Controller and Lithium Battery	845 x 670 x 30 (panel)	13.9
Accessories	LED3W12E	3W 12V LED High efficiency light bulb with E27 fitting	46 x 46 x 80	-
	LED5W12E	5W 12V LED High efficiency light bulb with E27 fitting	62 x 62 x 105	-
	SL-CH-3A	240V mains power adapter 3A 16V DC output	-	-
	E27CAB5SW	E27 12V Light bulb holder with a 5m 0.3mm cable with on/off switch and DC plug	-	-
	E27CAB5	E27 12V Light bulb holder with a 5m 0.5mm cable with a bare end	-	-
	SLCABLE5	5m extension cable for all solar lighting kits	-	-
	SLCABLE10	10m extension cable for all solar lighting kits	-	-

Accessories

A full selection of our cables and accessories, with up-to-date pricing and availability can be found on our website: www.photonicuniverse.com

Cables

To make sure that your installation can be fitted in the right place, our extra cables extend the possibilities. All of our solar extension cables come with MC4 connectors for easy connectivity to all of our solar panels. We also offer dual core battery cables as well as single core heavy duty tinned copper low voltage cables up to 70mm^2.

Plastic mounting brackets

We offer heavy-duty plastic mounts (corners and sides) along with cable entry glands for a completely waterproof installation.

Aluminium mounting brackets

We have strong aluminium solar mounting brackets for wall, roof, or pole installations. These brackets are quick and easy to fit and are specially designed for positioning solar panels at an angle with adjustable tilt for optimal performance.

Connectors

We offer various connectors for DC and AC systems and applications. For example, for connecting solar panels in parallel we can supply solar T-branch connectors, or solar 3-to-1 connectors or cable assemblies, or solar 4-to-1 cable assemblies.

Busbars

We offer high-quality red and black busbars, designed to streamline and enhance your power distribution setup. A busbar is an essential component for managing electrical currents efficiently, acting as a centralized hub to connect multiple circuits securely and neatly. Whether you are working with solar, off-grid, or marine systems, our durable bus bars reduce cable clutter and ensure a reliable power flow to all your devices. Choose our busbars to simplify your installation and enjoy safer, more organised power distribution.

Battery switches

We supply reliable battery switches and battery isolator switches to ensure safe and efficient power management. Perfect for boats, RVs, and solar systems, our switches provide seamless power control and protection for your batteries. Durable and easy to install, they are the ideal choice for maintaining system performance.

Circuit breakers

Protect your power systems with our high-quality DC overcurrent circuit breakers, available in a range from 30A to 250A and rated for 12V, 24V and 48V systems. Designed for reliability and ease of use, they ensure safe and efficient operation in solar systems, off-grid and mobile applications, and other DC systems. Built to last and certified to international standards, they deliver robust protection to keep your system running smoothly. We offer both panel-mount and recess-mount options.

Contact details

If you would like to order our products, discuss any projects or applications, or you need a system or a solution design, please contact us using the details below:

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