



# SUNBEAM<sup>SYSTEM</sup>

HIGH PERFORMANCE SOLAR PANELS

SMART LITHIUM BATTERIES

ADVANCED MPPT CONTROLLERS



## INNOVATIVE POWER SOLUTIONS **CATALOGUE 2020**

— [WWW.SUNBEAMSYSTEM.COM](http://WWW.SUNBEAMSYSTEM.COM) —

The Swedish company SUNBEAMsystem is renowned for its innovative power solutions. Always leading the development with high-performance products that can handle the most demanding circumstances. Most popular applications include the professional yachting industry and extreme off-grid environments, ranging from both arctic to tropical climates.





## SOLAR PANELS

World leading and with an extensive model range to suite all needs. Starting with the Tough++ featuring a record holding and simply stunning 25.1% efficiency.

### THE INVISIBLE CABLE - 2020 EDITION OF FLUSH

- The very flat cable connection solution allows our panels to be seamlessly integrated with the underlying surface, resulting in a cable-free installation.

### THE REVOLUTIONARY TOUGH SURFACE

- Made from extremely durable materials with an anti-slip profile. The Tough surface catches more light than glass, resulting in a higher daily production.

### THE BEST SUNPOWER SOLAR CELLS

SUNPOWER® Maxeon cells are by far the best and most efficient solar cells currently available, resulting in the highest possible production per m2.

### UNIQUE SHADOW OPTIMIZED TECHNOLOGY

- Models equipped with our protected Shadow Optimized technology produce more in shadow rich environments.



## SMART LITHIUM **PLUG & PLAY** BATTERIES

Technology leading for an effortless battery upgrade.

### PLUG & PLAY

- A true Plug & Play installation
- An easy upgrade that can be done by anyone

### BEST AND SAFEST TECHNOLOGY

- LiFePO4 is the safest chemistry available
  - Multiple electronic safeguards
  - Mechanical fire safety valves



## SMART LITHIUM **DRIVE** BATTERIES

The advanced energy storage for any size of marine propulsion. For Anglers and Yacht owners.



### BOOSTED AGILITY

- Extreme Power Delivery
- Up to 4.5X range

### NO RANGE ANXIETY

- Use ALL available storage
- Advanced APP

### ADVANCED PROPULSION ENERGY STORAGE

- 5-Year warranty
- 5000 cycles

## MOONRAY MPPT CONTROLLERS

Simply made to harvest more from the handful of solar panels that our customers normally utilize. Optimized for yachts and motorhomes.

### OPTIMIZED FOR PARALLEL SYSTEMS

- 1, 2 or many solar panels always optimized
- No need for sensitive serial installations

### SHADOW OPTIMIZED

- Unrivalled output in shaded and low light conditions

### PERFORMANCE MPPT

- Peak performance in all conditions

### MULTI CONNECT APP

- Networking and stacking of several controllers with a combined interface



## MULTI CONNECT APP

Connect simultaneously and show live data from all our products.



### SIMULTANEOUS MULTI CONNECTION

- Auto connect to all devices
- Display live collective data

### GROUP INFORMATION FROM SEVERAL DEVICES

- Choose which devices to join in a group
- Ingenious network replacement

### SMART NOTIFICATIONS

- Out of focus notifications
- Wearables support
- Top bar icon\*

\*Android only



**MOBILITY**



**YACHTING**



**OFF-GRID**

SUNBEAMSYSTEM

TOUGH++

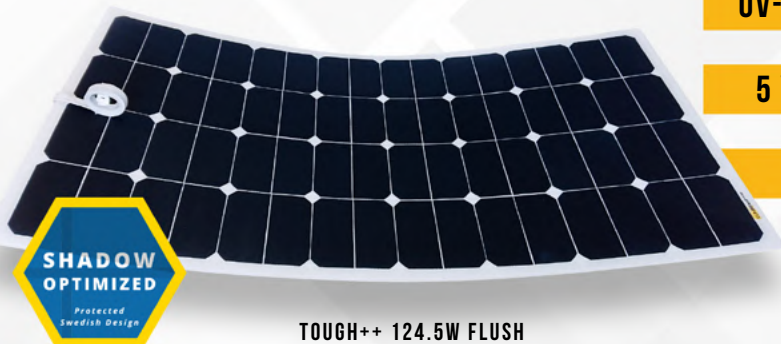
25.1% CELL EFFICIENCY

2020 EDITION FLUSH

UV-PROOF &amp; ANTISLIP

5 YEAR WARRANTY

3M MOUNTING



TOUGH++ 124.5W FLUSH

## THE BEST AND MOST EFFICIENT SOLAR PANEL ON THE MARKET!

The SUNBEAMsystem Tough++ 124.5W Flush with its incredible 25.1% efficiency is simply the best solar panel available. Put it in relation, it will often produce twice as much per area as the most common solar panels you find on a house roof.

Tough++ is the-state-of-the-art solar panel, the newest and most powerful technology currently available. Built with the best materials to ensure it is resilient in the most demanding circumstances. The 5-year warranty is totally unique when it comes to a flat and light weight solar panel.


**3M** VHB®

Attach Tough++ with the included **3M VHB** or a flexible glue, the anti-skid surface and invisible Flush features will result in a seamless integration on any deck or roof.

Art. nr.	Model	$W_p$	Shadow Optimized	Size (cm)	Sunpower Cell	Max sys voltage incl bypass diode	$V_{mp}$	$I_{mp}$	$V_{oc}$	$I_{sc}$	$P_{tol} \pm\%$	Kg	Cable	Eyelets
TPP106x54F	Tough++ 124.5W Flush	124.5	Yes	106x54	25.10%	30V (80V)	20.48	6.08	23.264	6.45	3%	2	2m	No



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# TOUGH+



**3M** VHB



TOUGH+ 82W FLUSH

**16% MORE POWER**

**2020 EDITION FLUSH**

**UV-PROOF & ANTISLIP**

**5 YEAR WARRANTY**

**3M MOUNTING**



TOUGH+ 58W FLUSH

## TOUGH+ IS SPECIFICALLY DEVELOPED FOR PROFESSIONAL PURPOSES

The SUNBEAMsystem Tough+ series is developed for professional purposes and all kinds of high end installations. The fantastic 23.7% efficiency together with the special materials you only find in our Tough panels results in a very attractive solar panel with an incredible 5-year warranty.

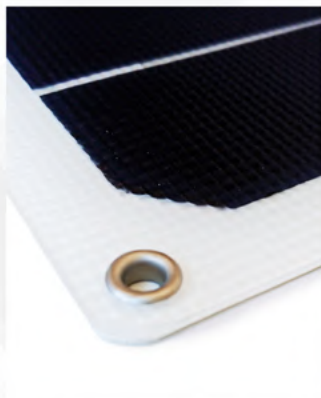
Tough+ is only delivered in the Flush version and without any holes. It is made to be glued with either the included 3M VHB or with flexible glue onto any smooth surface for a seamless integration.

The bigger sized models come with the unique Shadow Optimized technology.

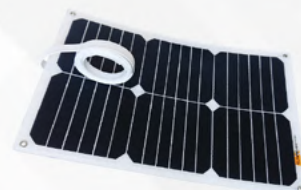


Art. nr.	Model	$W_p$	Shadow Optimized	Size (cm)	Sunpower Cell	Max sys voltage incl bypass diode	$V_{mp}$	$I_{mp}$	$V_{oc}$	$I_{sc}$	Ptol +/-	Kg	Cable	Eyelets
TP106x54F	Tough+ 116W Flush	116.1	Yes	106x54	23.70%	30V (80V)	19.87	5.84	23.07	6.15	3%	2	2m	No
TP78x54F	Tough+ 82W Flush	82.3	Yes	77.8x54	23.70%	30V (80V)	21.12	3.9	24.52	4.36	3%	1.5	2m	No
TP54x53F	Tough+ 58W Flush	58.1	-	54.5x53.5	23.70%	30V (80V)	19.87	2.92	23.07	3.08	3%	1	2m	No
TP38x53F	Tough+ 39W Flush	38.7	-	37.8x53.5	23.70%	30V (80V)	19.88	1.95	23.08	2.05	3%	0.7	2m	No

## TOUGH



TOUGH 111W FLUSH



TOUGH 21W FLUSH

POWERFUL &amp; COMPACT

2020 EDITION FLUSH

UV-PROOF &amp; ANTISLIP

SHADOW OPTIMIZED

5 YEAR WARRANTY

## TOUGH SERIES: WINNER IN MULTIPLE REAL-LIFE TESTS

Since its introduction, the SUNBEAMsystem Tough series has been the absolute winner in multiple real-life tests. All Tough models are fitted with Sunpower™ Maxeon cells with an efficiency of 22.5% or higher.

The anti-slip profile is not only practical for deck mounting; it also catches more light in low sun angles. In addition, the dirt-repellent properties also improve daily production by helping to keep the panels clean. It also provides a safe and walkable surface, without any cables to trip on.

The surface of the Tough series is extremely durable and resistant to strong and long UV exposure. It transmits more light than standard materials, contributing to a higher daily production.

All Tough models from 55W and up are equipped with SUNBEAMsystems protected Shadow Optimized technology, improving output in partially shaded conditions.

Tough models equipped with a flat power cable allowing an incredible flushed installation.

Art. nr.	Model	W <sub>p</sub>	Shadow Optimized	Size (cm)	Sunpower Cell	Max sys voltage incl bypass diode	V <sub>mp</sub>	I <sub>mp</sub>	V <sub>oc</sub>	I <sub>sc</sub>	Ptol +/-	Kg	Cable	Eyelets (mm)
T106x54F	Tough 111W Flush	110.8	Yes	106x54	Sunpower	30V (65V)	18.56	5.97	21.76	6.32	3%	2	1.5m	6x6
T78x54F	Tough 78W Flush	78.4	Yes	77.8x54	Sunpower	30V (65V)	19.72	3.98	23.12	4.48	3%	1.5	1.5m	4x6
T54x53F	Tough 55W Flush	55.4	Yes	54.5x53.5	Sunpower	30V (65V)	19.5	2.82	25.11	3.16	3%	1	1.5m	4x6
T38x53F	Tough 37W Flush	36.9	-	37.8x53.5	Sunpower	30V (50V)	18.57	1.99	21.77	2.11	3%	0.7	1.5m	4x6
T28x43F	Tough 21W Flush	20.8	-	43.4x27.7	Sunpower	30V (50V)	20.88	0.99	24.48	1.19	3%	0.3	1.5m	4x6
T15x85F	Tough 21W Long Flush	20.8	-	14.7x85	Sunpower	30V (50V)	20.88	0.99	24.48	1.19	3%	0.3	1.5m	No

# TOUGH

## BLACK SERIES



TOUGH 55W FLUSH BLACK



TOUGH 78W FLUSH BLACK



TOUGH 55W LONG FLUSH BLACK

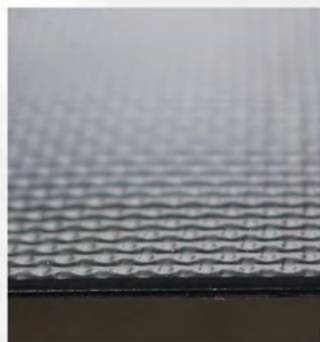
BLACK DESIGN PANEL

2020 FLUSH EDITION

UV-PROOF &amp; ANTISLIP

POWERFUL &amp; COMPACT

5 YEAR WARRANTY



## THE BEST TOUGH FEATURES BUT WITH A DISCREET BLACK LOOK

The SUNBEAMsystem Tough Black Series has been designed to look both inconspicuous and elegant at the same time. Developed with the intention to integrate perfectly in the looks of both modern and historical yachts.

With their dark appearance, the Tough Black panels will blend in on any even colored background.

Whether this background is pure white or a classic brown: nobody will suspect there's a solar panel hidden behind the all-black surface.

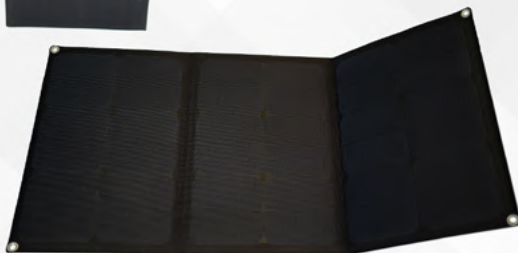
For a truly seamless surface integration, you can use the Tough Black Hole filler. An identical material without any cells that can be cut to size to fill up any irregular shapes surrounding the panels.

Art. nr.	Model	$W_p$	Shadow Optimized	Size (cm)	Sunpower Cell	Max sys voltage incl bypass diode	$V_{mp}$	$I_{mp}$	$V_{oc}$	$I_{sc}$	Ptol +/-	Kg	Cable	Eyelets (mm)
TBlackHole	Tough Black Hole	0												
T106x54F-Black	Tough Black 111W Flush	110.8	Yes	106x54	Sunpower	30V (65V)	18.56	5.97	21.76	6.32	3%	2	1.5m	6x6
T79x74F-Black	Tough Black 114W Flush	114.3	Yes	78.5x74	Sunpower	30V (65V)	19.14	6.16	22.44	6.52	3%	2.1	1.5m	No
T78x54F-Black	Tough Black 78W Flush	78.4	Yes	77.8x54	Sunpower	30V (65V)	19.72	3.98	23.12	4.48	3%	1.5	1.5m	4x6
T54x53F-Black	Tough Black 55W Flush	55.4	Yes	54.5x53.5	Sunpower	30V (65V)	19.5	2.98	21.76	3.16	3%	1	1.5m	4x6
T106x27F-Black	Tough Black 55W Long F	55.4	Yes	106x27.7	Sunpower	30V (65V)	19.5	2.82	25.11	3.16	3%	1	1.5m	No



# TOUGH

## FOLD SERIES



TOUGH CELL PROTECTION

LAMINATED TEXTILE COVER

LIGHTWEIGHT &amp; COMPACT

ONE-PIECE DESIGN

WATERPROOF

TOUGH FOLD 62W

## PORTABLE SOLAR PANEL DESIGNED FOR TOUGH ADVENTURES

As a part of the Tough family, the Fold has inherited the same sturdy cell cover. The laminated textile outside combined with the edge-soft and center-stiff core offers an exquisite and functional solar panel.

The laminated one-piece design results in a completely waterproof solution hence greatly improving life expectancy.

Both folded and Un-folded size is remarkably small, combined with the low weight it does resemble a slim laptop casing more than a powerful solar panel.

Folded size is smaller in all dimensions thanks to the one-piece construction and the extremely flat sized Junction box.

For full compatibility with industry-standard solar panel equipment the panel utilizes waterproof MC4 connectors. Connection and disconnection is made easy by the extra finger-friendly construction of the connections.

May we suggest to include the incredible Mini-R solar charge controller.

Art. nr.	Model	W <sub>p</sub>	Folded Size (cm)	Size (cm)	Sunpower Cell	Max sys voltage incl bypass diode	V <sub>mp</sub>	I <sub>mp</sub>	V <sub>oc</sub>	I <sub>sc</sub>	Ptol +/-	Kg	Cable	Eyelets (mm)
TZ172x42	Tough Fold 124.5W	124.5	42 x 29	171.5x42	Sunpower	30V	20.88	5.97	24.48	6.32	3%	2.2	Short +MC4	4x9
TZ85x42	Tough Fold 62W	62	42 x 28.5	85x42	Sunpower	30V	20.88	2.99	24.48	3.16	3%	1.1	Short +MC4	4x9
TZ84x30	Tough Fold 41.5W	41.5	30 x 28	84x30	Sunpower	30V	20.88	1.99	24.48	2.11	3%	0.7	Short +MC4	4x9
TZ47x30	Tough Fold 21W	20.75	30.5 x 16	47x30.5	Sunpower	30V	20.88	0.99	24.48	1.19	3%	0.4	Short +MC4	4x9

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# CARBON

**CARBON FIBER REINFORCED**

**SPRAYHOOD & BIMINI**

**QUICK FIX MOUNTING**

**SHADOW OPTIMIZED**

**5 YEAR WARRANTY**

## A LONG LIFE SOLAR PANEL FOR CANVAS & BIMINI



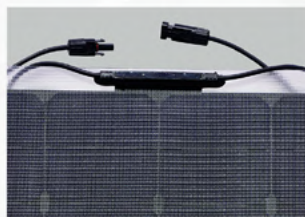
**SHADOW  
OPTIMIZED**

*Protected  
Swedish Design*

**TOUGH + CARBON 116W**

The Tough+ Carbon 116W Quick Fix is a highly advanced panel, capable of transforming your sprayhood and bimini into efficient solar power generators. Mounting a large solar panel on a canvas surface has always been a challenge, mostly because of the lack of structural support will increase the risk of early panel failure.

By reinforcing the panel with carbon fiber, the Carbon model achieves the perfect strength to weight ratio needed to tackle this problem. It makes the panel not only stiff enough to support itself, but also light enough to protect the underlying canvas from damages. The soft transparent edges do not only protect the fabric from wear, but also provide a smooth color transition from any colored top to the uniform black panel surface.



# QUICK FIX

DETACHABLE SOLAR PANEL

SUITED FOR EVERY SURFACE

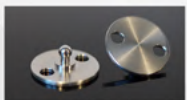
QUICK FIX MOUNTING

SHADOW OPTIMIZED

5 YEAR WARRANTY

TOUGH 55W QUICK FIX

## DETACHABLE SOLAR PANEL TO MOUNT ON ANY SURFACE



The Tough 55W Quick Fix model allows for a detachable mounting on any type of surface. Fitted with the same Quick Fix system as featured on the Carbon, but offering a more versatile character due to its smaller and more practical size.

This panel can be used in combination with any of the three different types of LOXX fittings.

These fittings provide the option to mount the panel on both a hard or a canvas surface.

The durable Tough surface and waterproof MC4 connectors offer a long lifespan, while the protected Shadow Optimization technology will ensure an optimal performance whenever a panel is partially shaded.

## CARBON VELCRO BATTEN

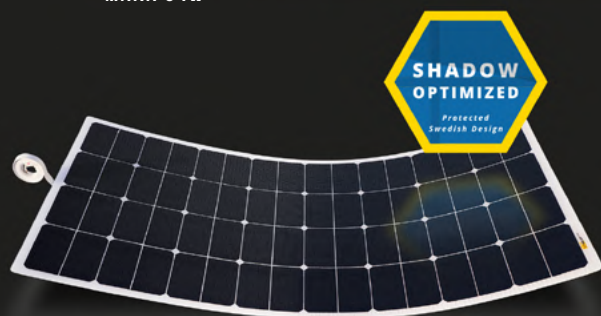


For use of the Carbon model in heavy wind or on fast-moving vessels, we recommend the Carbon Velcro Batten. These will even out the forces on the underlying canvas using velcro strips.

Art. nr.	Model	$W_p$	Shadow Optimized	Size (cm)	Sunpower Cell	Max sys voltage incl bypass diode	$V_{mp}$	$I_{mp}$	$V_{oc}$	$I_{sc}$	$P_{tol}$	Kg	Cable	Eyelets
TPC107x55QF	Tough+ 116W Carbon	116.1	Yes	107.8x 55.4	23.70%	45V (80V)	19.87	5.84	23.07	6.15	3%	2.8	7dm+MC4	6x QuickFix
T54x53QF	Tough 55W Quick Fix	55.4	Yes	55.5x53.5	Sunpower	45V (45V)	19.5	2.82	25.11	3.16	3%	1	7dm+MC4	4x QuickFix
CVB116	Carbon Velcro Batten			107.8x5	2mm Carbon Fiber								Canvas Side Velcro in Black Included	



# MAXA


**MAXA 54W**

**MAXA 109W**
**ETFE SURFACE**
**2020 EDITION FLUSH**
**SHADOW OPTIMIZED**
**HIGH EFFICIENCY CELLS**
**2 YEAR WARRANTY**


## MAXA ETFE SERIES: DURABILITY FOR A SHARP PRICE

The new Maxa series is packed with a lot of the unique features you only find at SUNBEAMsystem. It's fitted with an ETFE surface (the next best thing after Tough) and comes at a very sharp price.

The Maxa series has been designed as the ideal solar panel for use on both motorhomes and yachts, where value for money matters, with build quality and durability outshining the competition. The low weight and 3mm thickness make it perfect for rooftop integration. The ETFE surface is easily cleaned by the occasional rain shower.

Avoid the weight and air turbulence caused by solid solar panels. The flat cable is easily glued along the roof to the cable entrance, resulting in a neat and uncluttered installation.

The Maxa series is fitted with high-efficiency cells (22.3%), ensuring you get an impressive amount of power from the available roof space. On top of that, the Maxa models are also equipped with SUNBEAMsystems protected Shadow Optimized technology, which ensures a maximum charge in all weather conditions.

Art. nr.	Model	W <sub>p</sub>	Shadow Optimized	Size (cm)	Sunpower Cell	Max sys voltage incl bypass diode	V <sub>mp</sub>	I <sub>mp</sub>	V <sub>oc</sub>	I <sub>sc</sub>	Ptol +/-	Kg	Cable	Eyelets
X106x54F	Maxa 109W Flush	109.1	Yes	106x54	Sunpower	30V	18.432	5.92	21.696	6.29	4%	2	1.5m	No
X54x53F	Maxa 54W Flush	54	Yes	54.5x53.5	Sunpower	30V	20.224	3.06	25.74	2.75	4%	1	1.5m	No

# NORDIC



**NORDIC 54W JUNCTION BOX**



**NORDIC 104W FLUSH**

**HIGH PRODUCTION**

**UPGRADED SOLAR CELLS**

**FLUSH & JUNCTION BOX**

**SHADOW OPTIMIZED**

**2 YEAR WARRANTY**



## DESIGNED FOR NORDIC REGIONS

The Nordic series has been developed by SUNBEAMsystem for use in its region of origin: the northern latitudes. It offers a universal solution for applications with a requirement for lightweight, flexible and compact solar panels.

All Nordic models are equipped with our unique Shadow Optimized technology for improved performance in partial shadowing.

In 2020 all Nordic models have been upgraded with newer and more efficient solar cells, increasing the peak power output.

The Flush models are shipped without stainless steel eyes allowing for a seamless integration on hard surfaces. We recommend white Sikaflex 291i kit for mounting.

### JUNCTION BOX MC4 CONNECTORS

The Junction Box models are fitted with stainless steel eyes and MC4 connectors for easy mounting and a waterproof connection.



Art. nr.	Model	W <sub>p</sub>	Shadow Optimized	Size (cm)	Sunpower Cell	Max sys voltage incl bypass diode	V <sub>mp</sub>	I <sub>mp</sub>	V <sub>oc</sub>	I <sub>sc</sub>	Ptol +/-	Kg	Cable	Eyelets (mm)
N106x54JB	Nordic 104W J Box	104	Yes	106x54	Sunpower	30V	17.55	5.93	22.69	6.34	5%	2	7dm+MC4	6 x 6
N106x54F	Nordic 104W Flush	104	Yes	106x54	Sunpower	30V	17.55	5.93	22.69	6.34	5%	2	1.5m	No
N54x53F	Nordic 54W Flush	54	Yes	54.5x53.5	Sunpower	30V	19.6	2.76	25.74	3.06	5%	1	1.5m	No
N54x53JB	Nordic 54w J Box	54	Yes	54.5x53.5	Sunpower	30V	19.6	2.76	25.74	3.06	5%	1	7dm+MC4	4 x 6

EXTREME POWER DELIVERY

QUICK CHARGE

MULTI CONNECT APP

5 YEAR WARRANTY



## A TRUE PLUG & PLAY INSTALLATION

### EASY UPGRADE FOR ANYONE BATTERY UPGRADE WITHOUT EQUIPMENT EXCHANGE

The SMART LITHIUM is completely Plug & Play! Simply remove your old-fashioned batteries and upgrade them to the latest effortlessly. No need for extensive installation planning or support. Developed from scratch to solve any shortcomings other battery types have.

## LONG LIFE | HIGH EFFICIENCY | HIGH CAPACITY

### 100AH SMART LITHIUM IS EQUIVALENT TO 200AH LEAD-ACID BATTERY

#### MULTI CONNECT APP

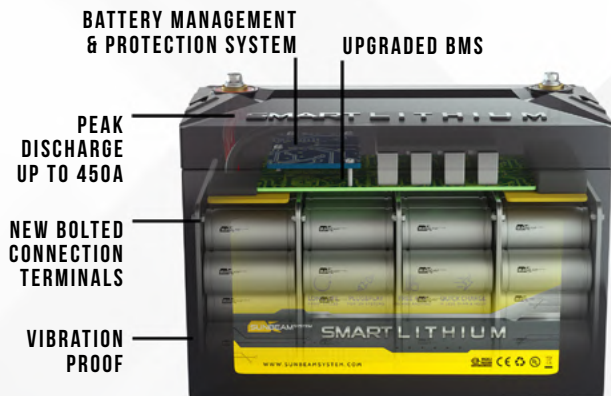
#### CONVENIENCE AT YOUR FINGERTIPS

The all new SUNBEAMsystem Multi Connect APP simplifies having several batteries in one domestic bank, together with numerous other advantages. An upgraded BMS offers a better prognosis calculation sent to the APP.

- INTEGRATED WITH THE BMS FOR FULL INFORMATION AVAILABILITY
- APP OUT OF FOCUS NOTIFICATIONS & TOP BAR INDICATOR
- SHOW SUM OF GROUP INFO INSTANTLY - NO NEED TO ALTERNATE
- CONFIGURE THE USER INTERFACE LAYOUT AND SCREEN SIZE







## ONE

The **SMART LITHIUM ONE** is truly a unique battery. This includes the ability for quick charge in less than an hour.

## BASIC

The **SMART LITHIUM BASIC** advantage is the unbeatable price per Ah for anybody with a need for a big storage capacity.

**AFTER 5000 CYCLES (NORMAL USAGE) THE BATTERY WILL STILL BE ABLE TO STORE 80% OF ITS ORIGINAL CAPACITY**

2020 upgrades offers an upgraded BMS with better prognosis sent to the APP. Better temperature handling due to heavy duty connections. Basic with slightly higher current allowance. Slightly smaller exterior with both integrated handles as well as a detachable strap.

DEPTH OF DISCHARGE	100% DoD	80% DoD	70% DoD	50% DoD
80% OF FACTORY CAPACITY AFTER	2000 cycles	2500 cycles	3000 cycles	5000 cycles



## WHY IS SMART LITHIUM SAFER THAN YOUR OLD BATTERIES?

**LITHIUM PHOSPHATE (LiFePO4) IS THE SAFEST CHEMISTRY AVAILABLE**

- **MULTIPLE ELECTRONIC SAFEGUARDS**
- **MECHANICAL FIRE SAFETY VALVES**



Due to our multi-layered safety, the **SMART LITHIUM** is one of the few batteries that's certified under **UN 38.3** legislation, guaranteeing it's safe for air transport. It means that the battery is secured against penetration (or crushing) of the cells, fire, changing air pressure, repeated vibrations, shock impact, short-circuiting and overcharging. In case there is a risk to the system, the built-in BMS will automatically protect and shut down the battery, isolating itself from the casing.

Art #	Model	Capacity	System Voltage	Max. cont. charge	Max. cont. discharge	Peak discharge (10s)	Weight	Dimensions
SmartLi100One	SMART LITHIUM ONE	100Ah	12V	150A	150A	450A	14.5kg	328 x 172 x 222 mm
SmartLi100Basic2	SMART LITHIUM BASIC	2x100Ah	12V	2x95A	2x95A	2x300A	14.5kg	328 x 172 x 222 mm

4.5X LESS WEIGHT

SUPER DURABLE

5-YEAR WARRANTY

BOOSTED AGILITY

## SMART LITHIUM DRIVE MODEL RANGE FOR ANY ELECTRIC PROPULSION ENERGY STORAGE NEEDS

**5-Year Warranty & 5000 Cycles** – Batteries renowned for high-tech and unrivalled quality.

**No need for proprietary chargers** – Fully compatible with your electrical motor as well as standard charging equipment.

**Safety First** – Three layered safety, safer than Li-ion and even Lead-Acid batteries.

**Boosted Agility** – Instantly get more out of your motor. Forget about lead-acid fragility and limits.

**Ultra-Lightweight** – Your boat will handle better with less weight! You will get up to 4.5 X as much range per weight.

**NO range anxiety** with the Multi Connect App. Updates on the fly with notifications and top bar indications. Wearables will also display the state of charge. Set warnings and get range prognosis.



Motor size	DRIVE Model
Up to 60lbs (12V) motor	12V 1300Wh DRIVE
Up to 80lbs (24V) motor	24V 1300Wh DRIVE
Up to 125lbs (36V) motor	3 x 12V 1300Wh DRIVE in series*
Max 7.5kW (48V-58V) motor	48V 10kWh DRIVE**

\*Don't use 36V charger - opt for individual 12V chargers

\*\*For double engine kW - use two batteries

SUNBEAMSYSTEM

# MOONRAY SERIES

**MPPT CONTROLLER OPTIMIZED  
FOR YACHTS AND MOTORHOMES**

**PEAK PERFORMANCE IN ALL CONDITIONS**

**NO LIMITATIONS FOR TWO OR MANY SOLAR PANELS IN PARALLEL**

**CLUSTER MANY MOONRAY FOR AN OPTIMIZED BIG SIZE ARRAY**

**UNRIVALED IN SHADED AND LOW LIGHT CONDITIONS**



WIDE SPECTRUM  
**MPPT**

ENHANCED FOR  
SINGLE & FEW  
SOLAR PANELS

IMPROVED  
LOW LIGHT  
CHARGE



**IP33 DRIPPING  
WATER PROTECTION**



**LOW SELF  
CONSUMPTION  
≤ 12mA**



**ADAPTABLE FOUR  
STEP CHARGE  
ALGORITHM**



**INTELLIGENT &  
EFFECTIVE MPPT  
FUNCTION**



**ALLOWANCE FOR  
SINGLE PANELS  
AND SHADING**



**RELIABLE  
HIGH QUALITY  
COMPONENTS**

## DEVELOPED & TESTED IN REAL LIFE WEATHER CONDITIONS

The new MoonRay MPPT charge controllers are fully optimized for use on yachts and RV's. They outperform every other type of MPPT in both perfect as well as 'real-life' weather conditions. So even when slightly clouded or with panels partially shadowed: MoonRay will excel with the maximum possible output.



## MULTI CONNECT APP



*For Android & IOS, requires  
additional bluetooth dongle*

## COMPREHENSIVE INITIAL CONFIGURATION INSTANT INFORMATION UPDATES

Connects simultaneously to all SUNBEAMsystem devices onboard. No need to manually alternate and connect to different devices or investing in a special onboard network. Configurable grouping of multi devices to show them as one cluster. According to your personal configuration you will be able to display the whole cluster as one unit. Name it as you like and conveniently display the joint data as one.

*\*More functions to be released soon.*





TEMPERATURE  
SENSOR



CHARGE OPTIMIZATION  
& PROTECTION



NATURAL QUIET  
CONVECTION COOLING

With MoonRay outdated limitations belong to the past. It is constructed to make optimal use of one or two or even many solar panels. The controller will maximize the output even when the weather might not be perfect.

Any user aiming to install many solar panels might utilize the gained performance of the MoonRay's ability to stack several controllers. The Multi Connect APP can show all controllers in a single clear overview.



MoonRay is fully configurable and supports any type of battery without the use of dip-switches. Modern batteries such as AGM and Lithium can be set via the optional display or optional app.

**SUNBEAM**SYSTEM

# MINI-R



**MICRO SIZED**

**SUITED FOR MOBILE USE**

**PORTABLE & LIGHTWEIGHT**

**WATERPROOF DESIGN**

**MC4 CONNECTORS**

## THE SMALLEST 65W SOLAR CHARGE CONTROLLER YOU HAVE EVER SEEN

The SUNBEAMsystem Mini-R might be the smallest 65A charging controller you have ever seen. As a so called 'in-line' controller, it's been specifically designed for mobile applications. Combine it with a solar panel (max. 65W) and you'll have a fully portable solar power source at your disposal.

The Mini-R is extremely light, user-friendly and features a waterproof IP67 housing. It comes with two extension cables: one fitted with MC4 connectors for connecting a solar panel, and one fitted with croc clamps for connecting your battery. There's also an optional battery cable fitted with cable eyes to permanently connect to your battery terminals.

Art. nr.	Product	System Voltage	Max. PV rated power	Weight	Dimensions
MoonRay160	MoonRay 160 MPPT	12/24V DC	160W (12V) / 320W (24V)	0.6 kg	172 x 139 x 44 mm
MoonRay320	MoonRay 320 MPPT	12/24V DC	320W (12V) / 640W (24V)	1.1 kg	220 x 154 x 52 mm
Mini-R	Mini-R PWM 65W	12V DC	65W (12V)	0.1 kg	66 x 38 x 16 mm



## SHADOW OPTIMIZED

Protected  
Swedish Design

## SHADOW OPTIMIZED

The SUNBEAMsystem Shadow Optimized technology is unique. Thanks to the internal division of the panel it will produce more than a panel without the same. The difference in total energy produced might be substantial compared to an ordinary panel that has been shut down due to shading several times over a whole day.



## THE FLUSH CABLE

Most of the SUNBEAMsystem are nowadays fitted with the very flat cable. The 2020-edition of this enables an even sleeker installation with the incredibly flat connection and only 1.4mm thick cable. Despite the looks the cable carries 2x2.1mm<sup>2</sup> pre-tinned copper for the lowest possible resistance.

## EXPLANATION OF LISTED VALUES

All values are measured in standard testing conditions:

- 1000W/M2, 1.5 atm, 25° Celsius
- Temperature coefficient  $I_{sc} = 0.05$  (%/°C)
- Temperature coefficient  $V_{oc} = 0.27$  (%/°C)
- Temperature coefficient  $P_{max} = 0.29$  (%/°C)

Weight: Listed weights without cables.

$P_{max}$  is the maximal attainable power.

$V_{oc}$  (Voltage open circuit), also referred to as the clamping voltage, is the maximum voltage when no load is connected.

$I_{sc}$  (Ampere short circuit) is the maximum current when the panel is short circuited.

$V_{mp}$  (Voltage maximum power) is the maximum voltage a panel produces under ideal circumstances.

$I_{mp}$  (Ampere maximum power) is the maximum current a panel produces under ideal circumstances.

**INFORMATION ON DIFFERENT OPTIONS AND CORRECT MOUNTING CAN BE FOUND  
IN THE KNOWLEDGE BANK ON THE SUNBEAMSYSTEM WEBSITE**



**TOUGH 55W LONG  
FLUSH BLACK**

**GET THE MOST OUT OF EVERY SPACE**



**TOUGH 55W FLUSH**