

SOLARWORLD QUALITY

2012 product overview for installers, planners and wholesalers





»» <i>With SolarWorld, you'll be ready for the solar future today</i>	4
»» <i>SolarWorld products – Clever solutions for all applications</i>	
»» Sunmodule® – Quality and performance	6
»» SunkitS – “All-inclusive package” by professionals for professionals	12
»» Inverters	14
»» Sundeck – The perfect combination of aesthetics and efficiency	16
»» Sunfix ^{plus} – The talented all-rounder for pitched roofs	18
»» Sunfix ^{plus} – The ideal mounting system for flat roofs	20
»» Suntub – Powerful flat roof system	22
»» Sunfix ^{aero} – Low-ballast flat roof system	24
»» SunCarport – Power generation and weather protection	26
»» Suntrol – Keeping performance data in view	28
»» SunPac – Innovative solar power storage system	30
»» Suntool 2 – Professional design software	32
»» SunpasS – Individualized quality and performance documentation	34
»» SunkitS – Free special insurance for solar systems	36
»» SUNCHARGER – Solar system for your pocket	38
»» <i>Contact</i>	40



With SolarWorld, you'll be ready for the solar future today

The solar future is already underway. As a solar pioneer, we are always ahead of every new development so that our customers can easily keep up with the industry's rapid technological advancements. Our products are your best option for embracing the solar future. We are the only German manufacturer already offering standardized mounting kits and solar system solutions that are perfectly tailored to the current market conditions.

With our high-quality products, we provide system operators with the necessary instruments for monitoring and controlling their energy consumption, as well as increasing the amount of self-generated energy that they consume themselves. After all, direct consumption is becoming increasingly important.

In light of steadily increasing electricity prices, the demand for independence from power companies and for fixed electricity prices is on the rise. If you consume a great deal of electricity directly, you increase your

system's profitability, since the energy you produce yourself is almost the most affordable power available today. This is exactly where SolarWorld products – such as the SunPac® storage battery system – come into play. With our products, you'll be ready for the future.

We offer top-quality and powerful “made in Germany” technology at fair prices. Our quality standards drive our entire philosophy. We have all stages of the solar production cycle covered: From acquiring the raw material silicon through to manufacturing solar wafers, solar cells and solar modules, and even recycling, we provide everything from a single source. This allows us to deliver outstanding quality as well as ensure that our products are produced in a sustainable and environmentally-friendly way.

***Let us do the hard work for you:
Invest with us in your solar future.***



SOLARWORLD PRODUCTS – QUALITY FROM A SINGLE SOURCE

- » **QUALITY “MADE IN GERMANY”:** The standardized SolarWorld module concept stands for excellent products. SolarWorld ensures constantly high profitability thanks to first-class quality.
- » **GROUP-WIDE QUALITY MANAGEMENT:** Fully-automated production lines and seamless process and material monitoring ensure the high level of quality that the company sets as its benchmark for its subsidiaries worldwide.
- » **COMPREHENSIVE WARRANTIES:** SolarWorld quality modules come with a linear 25-year performance guarantee as well as a 10-year extended workmanship warranty*.

- » **NUMEROUS CERTIFICATIONS:** The quality of SolarWorld products is certified by external and independent testing institutions.
- » **SERVICE THAT GOES FURTHER:** Customized system solutions by professionals for professionals with a whole host of extras, ranging from storage systems to system monitoring and free insurance.

* in accordance with the applicable SolarWorld service certificate upon purchase | www.solarworld.de/module/service-certificate



Sunmodule Plus® – Quality and performance

With over 30 years of production experience, SolarWorld has been one of the global market leaders for many years and played a key role in the development of solar power technology from the very beginning. All the stages of production, from the acquisition of silicon to module production, were established at the German production site in Freiberg. This is precisely how SolarWorld ensures the best quality throughout the entire production process. After all, only the best solar system also offers a secure investment. And if you invest in the most efficient product, you can look forward to long-term yields. SolarWorld makes the decision for your customers easy and ensures the best quality – starting with the module.



SolarWorld AG relies on Germany as its technology location, thereby ensuring sustainable product quality.



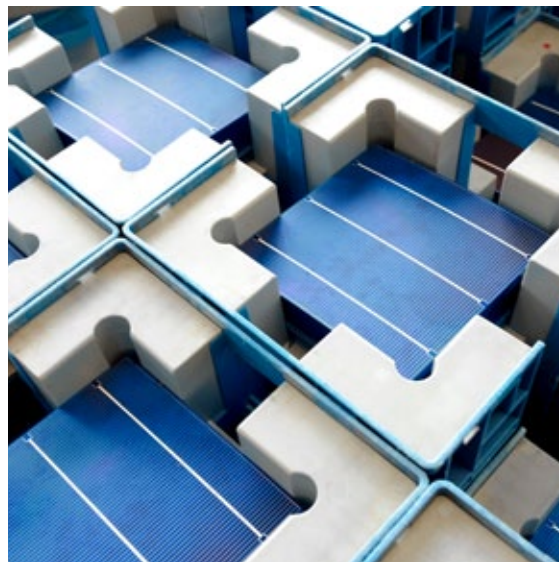
The positive power tolerance guarantees utmost system efficiency. Only modules achieving or exceeding the designated nominal power in performance tests are dispatched. The power tolerance ranges between -0 Wp and +5 Wp.



The TUV Rheinland Power controlled inspection mark guarantees that the nominal power indicated for a Sunmodule Plus® is inspected at regular intervals and thus ensured. The deviation to TUV is maximum 2 percent.



With its linear performance warranty covering a period of 25 years, SolarWorld guarantees a maximum performance degression of 0.7 % p.a., a significant added value compared to the two-phase warranties common in the industry. Therefore, the service certificate offers comprehensive protection for your investment in the long term.





In addition to the product benefits listed on the previous page, the SolarWorld Sunmodule Plus® also includes the following high-quality features.

ADDITIONAL PRODUCT BENEFITS



Fully automated production at highest quality level



SolarWorld solar modules are resistant to frost and hail and can therefore withstand any winter conditions



DLG and TUV-tested resistance against ammonia



Maximum pressure load up to 5.4 kN/m² for high snow loads



Tested resistance to salt mist for use in coastal areas



Sunmodule Plus® SW 240–250 poly

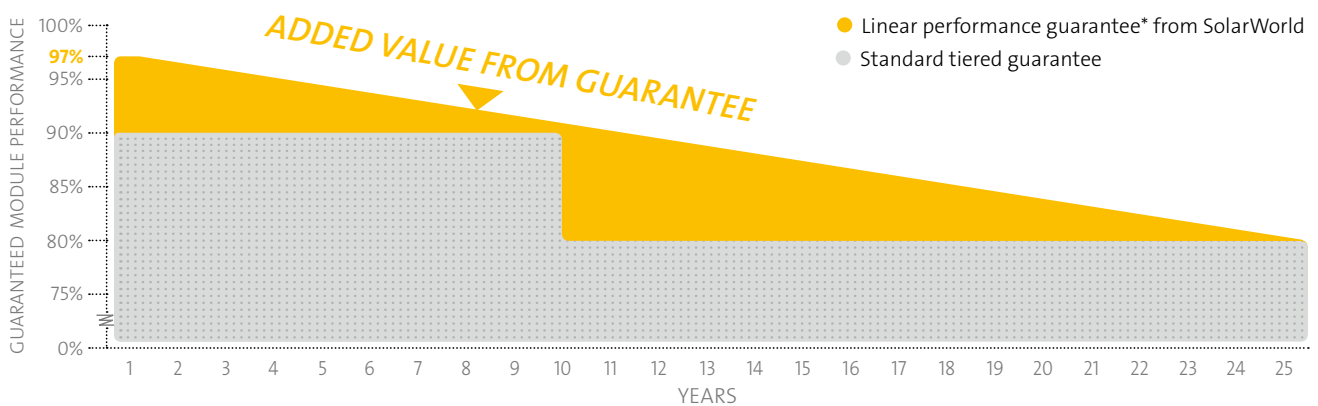


Sunmodule Plus® SW 240–250 mono black

Sunmodule⁺ on-grid *technical data*

	SW 240–250 POLY	SW 240–250 MONO BLACK
Length x width x height	1675 x 1001 x 31 mm	1675 x 1001 x 31 mm
Frame	Silver anodized aluminum	Black anodized aluminum
Weight	21.2 kg	21.2 kg
Cells per module	60	60
Cell dimensions	156 x 156 mm	156 x 156 mm
Performance tolerance	-0/+5 Wp	-0/+5 Wp

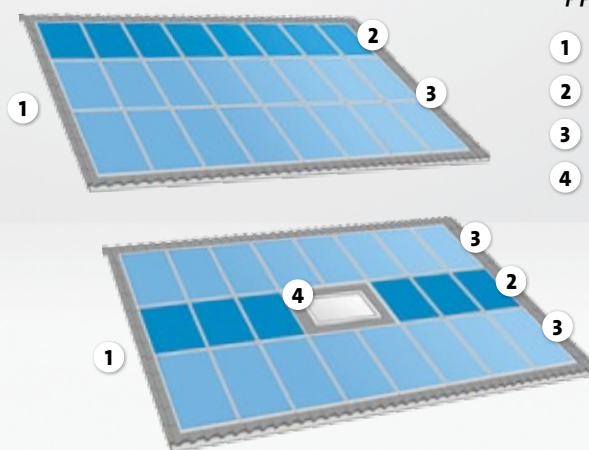
Linear performance guarantee*



* in accordance with the applicable SolarWorld service certificate upon purchase | www.solarworld.de/module/service-certificate



Sunmodule Plus® SW 196 Vario poly

**Application examples**

- 1 Existing roof surface
- 2 Sunmodule Plus® SW 196 Vario poly
- 3 Sunmodule Plus® SW 245 poly
- 4 Skylight

New module size offers greater flexibility for solar systems

This SolarWorld innovation makes it possible to combine two module classes within one roof-mounted system for the very first time. The combined installation can also be planned using Suntool® 2. The Sunmodule Plus® SW 196 Vario poly has the same width as standard SolarWorld modules, yet is two cell rows shorter – plus it's perfectly matched to the Sunmodule Plus® SW 245 poly. By combining these two quality modules and the Sunfix® plus mounting frame, you make optimum use of your roof surface.

PRODUCT BENEFITS

- >> Compact dimensions increase flexibility for fully exploiting the roof surface
- >> Includes the option of combining two power classes within one solar system for the very first time
- >> Can be planned with Suntool® 2
- >> Perfectly matched to the Sunmodule Plus® SW 245 poly
- >> Homogenous module installation for an elegant appearance and impressive efficiency
- >> Compatible with mounting kits for self-consumption



Sunmodule⁺ on-grid *technical data*

SW 196 VARIO POLY

Length x width x height	1357 x 1001 x 31 mm	Cells per module	48
Frame	Silver anodized aluminum	Cell dimensions	156 x 156 mm
Weight	17.4 kg	Performance tolerance	-0/+4 Wp



Sunmodule® SW 50 poly RMA



Sunmodule® SW 80 poly RNA



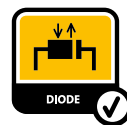
Sunmodule® SW 135 poly R6A

Sunmodule® – For off-grid solar systems

SolarWorld also produces solar modules for powering small decentralized applications at its fully automated production facility in Freiberg. These off-grid modules meet the same durability, quality and performance requirements as the standard SolarWorld sets for the Sunmodule Plus® series. In close collaboration with battery and charge controller manufacturers, SolarWorld also offers additional services for the design of off-grid systems.

PRODUCT BENEFITS

- >> The diodes of the Sunmodule® off-grid modules can be replaced without special tools
- >> The module's permanent and laminated type plate ensures that the nominal power can no longer be falsified



Sunmodule® off-grid technical data

	SW 50 POLY RMA	SW 80 POLY RNA	SW 135 POLY R6A
Length x width x height	680 x 680 x 34 mm	958 x 680 x 34 mm	1508 x 680 x 34 mm
Frame	Aluminum	Aluminum	Aluminum
Weight	5.6 kg	7.6 kg	11.8 kg
Cells per module	36	36	36
Cell dimensions	62 x 156 mm	94 x 156 mm	156 x 156 mm
Performance tolerance	+/-10 %	-5/+10 %	+/-5 %



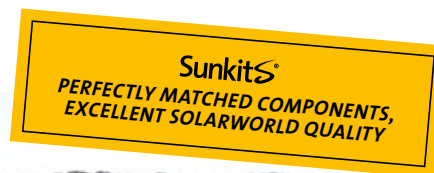
Sunkits® – “All-inclusive package” by professionals for professionals

Enjoy sales success with your customers: With the SolarWorld Sunkits®, you'll receive special all-inclusive service. The kits contain all components required for constructing and operating a solar system: SolarWorld quality modules, inverters, data loggers with power management, mounting systems, cables and accessories. SolarWorld takes into consideration your customers' individual requirements as well as the specific building and on-site conditions to assemble a customized system solution. Sunkits® are perfectly planned in advance, assembled according to the latest standards and norms and then delivered directly to the customer's construction site – for a fixed price depending on the system size. This saves time during the preparation and installation. Service that goes further: To round off the package, Sunkits® are insured for two years at no extra cost. This Sunkits® offer will not only safeguard your customers' investments but also give them real peace of mind. And to provide you and your customers with an overview of the system details at all times, SolarWorld also gives you a Sunpass® – a comprehensive collection of quality and performance documents that is exclusive to SolarWorld.

PRODUCT BENEFITS

- » Planning, design and perfectly matched components from a single source
- » Tailor-made, pre-assembled kits with fixed prices for each system size that can be quickly and safely mounted
- » Always in compliance with the latest standards and norms
- » Upon request, the kits can be delivered directly to the construction site
- » Lots of optional extras, from system monitoring to system insurance
- » Certified mounting system statics according to Eurocode 1 / DIN 1055





Sunkits® *technical data*

EACH SUNKITS® INCLUDES THE FOLLOWING COMPONENTS:

- > Solar modules: Sunmodule Plus® or Sunmodule Plus black®
 - > Inverters according to SolarWorld's standard configuration: Kostal or SMA
 - > SolarWorld mounting system: Sundeck®, Sunfix® plus, Sunfix® aero, Suntub®
 - > DC cable set: Suncable 1 x 4 mm² / 1 x 6 mm²
 - > System monitoring and visualization: Suntrol®
 - > System documentation: Sunpass® PDF and high-quality print version
 - > Special insurance: Two or optional five-year term
 - > Optional: Suntrol® LED / LCD display
 - > Optional: Battery storage system and consumption control
-



SMA – Versatile and user-friendly

SolarWorld offers a wide product portfolio that includes SMA inverters. Inverters come with communication interfaces as standard and feature a well thought-out installation concept, which makes them especially user-friendly. All models provide a wide input voltage range, offering maximum flexibility for system planning. Devices with or without transformers are available for every grid type.

SMA inverters – technical data (SB 4000 TL-20)

Rated AC output power	4000 W
3-phase grid feed-in	no
MPP voltage range	175–500 V
Max. input voltage	750 V
Euro efficiency	96.4 %
Number of MPP trackers	2
Integrated data logger	no
Standard communication interface	RS-485, Bluetooth
Weight	26 kg
Certification	CE, VDE0126-1-1, DK 5940 ED2.2, G83/1-1, G59/2, RD 1663/2000, RD 661/2007, PPC, AS4777, EN 50438, PPDS, KEMCO, C10/11, AEEG 084-12, UTE C15-712-1

SMA PRODUCT BENEFITS

- >> Integrated power management functions and graphical display
- >> Standard wireless and wired communication (wireless only with new generation devices)
- >> Innovative installation concept, including Sunclix plug connectors





KOSTAL – Standard communication

SolarWorld inverters from Kostal offer standard communication and feature comprehensive communication interfaces. They can be directly integrated into the Suntrol® portal to visualize your system's yields so that an additional data logger is not required. The devices offer transformerless topology and feed power into the public grid through three phases. Highly efficient and equipped with at least 2 MPP trackers, they ensure maximum yields and flexibility for system planning.

KOSTAL inverters – technical data (PIKO 8.3)

Rated AC output power	8300 W
3-phase grid feed-in	yes
MPP voltage range	180–850 V
Max. input voltage	950 V
Euro efficiency	95.1 %
Number of MPP trackers	2
Integrated data logger	yes
Standard communication interface	RS-485, S0-Port, Ethernet
Weight	33 kg
Certification	CE, C10/C11, EN 50438, Enel-Guida, RD1663/2000, UTE C15/712-1, VDE 0126-1-1, VDE-AR-N 4105

KOSTAL PRODUCT BENEFITS

- >> Three phase feed-in, starting at 4 kW (AC)
- >> Integrated data logger saves additional costs
- >> Free yield monitoring via the Suntrol® portal





Sundeck® – The perfect combination of aesthetics and efficiency

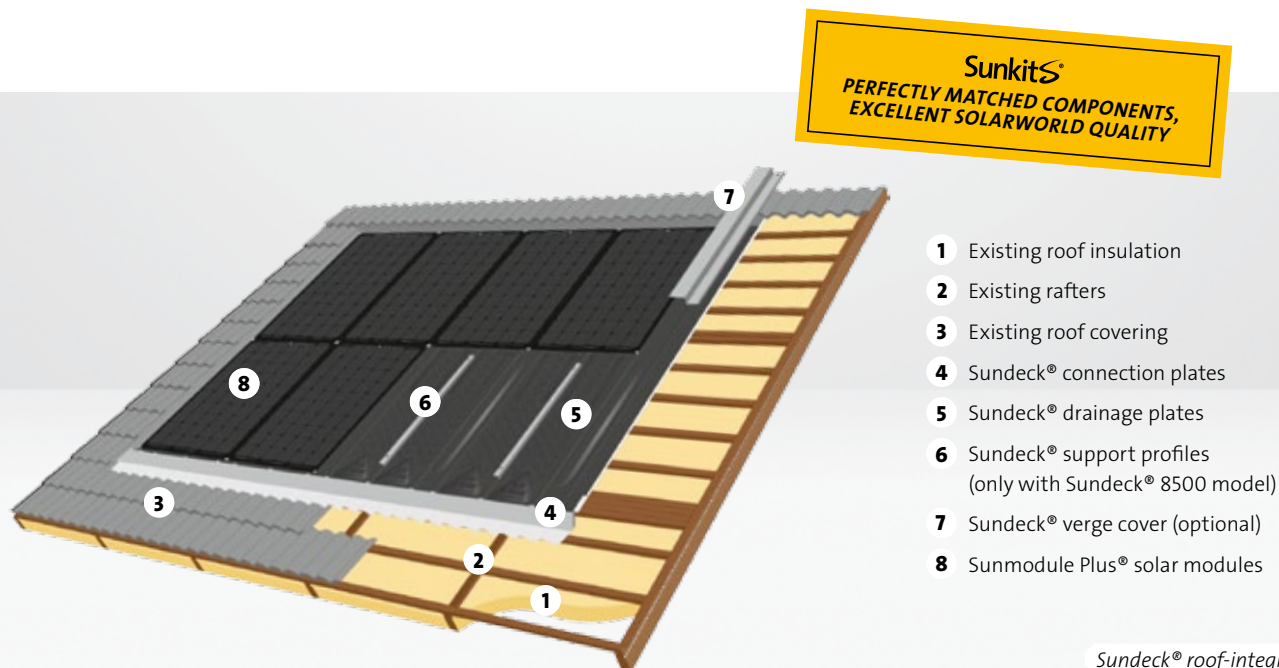
The roof-integrated system for customers with high standards: Sundeck® enables SolarWorld high-performance solar modules to be elegantly positioned at the same level as the rest of the roof. Suitable for tiled roofs and slate roofs alike, it also sets new standards in terms of aesthetics as a complete roof solution. The Sundeck® can be used for pitched roofs with an inclination of 15 to 60 degrees. This system will also save your customers the costs of a conventional rooftop covering. The Sundeck® is technologically impressive and economical, with its small number of perfectly matched system elements. The cleverly designed rain-proof substructure is attached directly to the roof battens, making it easier to install solar systems and simultaneously saving you time. During the planning phase, the kit is adjusted to ideally suit the building's individual requirements. So your customers can look forward to a truly stylish addition to their home, as well as maximum yields.

New: The Sundeck® 8500 withstands extreme snow loads and is suitable for combined loads of up to 8.5 kN/m² thanks to its specially developed support profiles.

PRODUCT BENEFITS

- » Unique selling point for your business success – the system is only available from SolarWorld
- » Cost advantage through elimination of the rooftop cover
- » High yields thanks to the special construction and optimum rear ventilation
- » The sophisticated system elements do not require roof hooks, ensuring fast installation
- » Perfectly suited for areas with high snow and wind loads
- » TUV certification for maximum safety
- » Meets the guidelines for rain safety stipulated by the Central Association of the German Roofing Industry





Sundeck® technical data

DETAILS

- > Delivery as a complete Sunkits®, including:
 - > Drainage plate as a substructure (incl. fastening screws, sealing calottes, module clamp specially matched to the system, cable clips and other clips with pre-assembled nails, equipotential bonding screws)
 - > Modules: Sunmodule Plus®
 - > Inverters
 - > Pre-assembled cables
- > Certified statics according to Eurocode 1 / DIN 1055 in the Sunkits®
- > Sundeck® 8500: capable of bearing loads up to 8.5 kN/m² thanks to special support profiles
- > Hard roof covering in conjunction with Sunmodule Plus® according to DIN EN 13 501-5 and in conjunction with DIN V 4102-3
- > TUV-certified safety with regard to the roof membrane thickness requirements
- > Low load on roof construction compared to conventional roof coverings



Sunfix® plus – The talented all-rounder for pitched roofs

The Sunfix® plus mounting system for pitched roofs is the multifunctional master of the SolarWorld framing systems. Its versatile supporting structure makes it possible to install SolarWorld quality modules parallel with the roof surface on all kinds of pitched roofs. The solar system subtly and elegantly blends into the roof's overall appearance thanks to the frame's sophisticated design. An all-inclusive package: Sunfix® plus mounting kits feature high-quality, versatile components that are assembled to perfectly suit your customers' needs. It was designed by SolarWorld specialists to deliver optimum stability and a long system service life. Perfectly planned and matched to the requirements of your customers, the system can be quickly and easily installed on-site. With Sunfix® plus, modules can be safely installed without causing any damage to the rooftop cover and roof membrane and the system consists of top-grade components made of aluminum and stainless steel to ensure a long service life. The potential equalization between the module and the mounting system in the overall system using the module and potential equalization clamps is VDE tested. Poor weather conditions are no match for the Sunfix® plus: The mounting system for pitched roofs can withstand heavy loads in areas subject to heavy snowfall and strong winds.

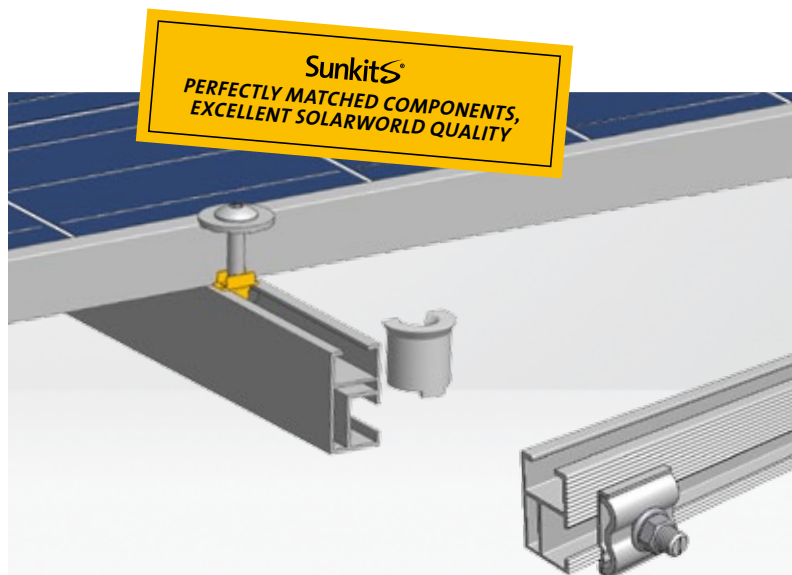
PRODUCT BENEFITS

- >> Suitable for all pitched roofs
- >> Optimum rear ventilation for maximum yields
- >> The overall system's potential equalization is VDE-tested
- >> Components are perfectly and individually matched
- >> Pre-assembled components ensure straightforward and fast installation
- >> No damage to the rooftop cover and roof membrane
- >> Only high-quality materials are used ensuring stability and durability





Fast installation thanks to the easily accessible screw fittings



Overall system's potential equalization between the module and the mounting system using the module and potential equalization clamps is VDE-tested

Sunfix^{plus} *technical data*

DETAILS

- > Can be used as a single or double-layered system
 - > Suitable for vertical and horizontal solar module installation
 - > Low frame weight starting from 2 kg/m²
 - > Certified statics according to Eurocode 1 / DIN 1055 in the Sunkits®
 - > Can be mounted against or with the roof pitch
 - > Roof hook types available for a wide range of applications
 - > Optionally available with theft protection
-



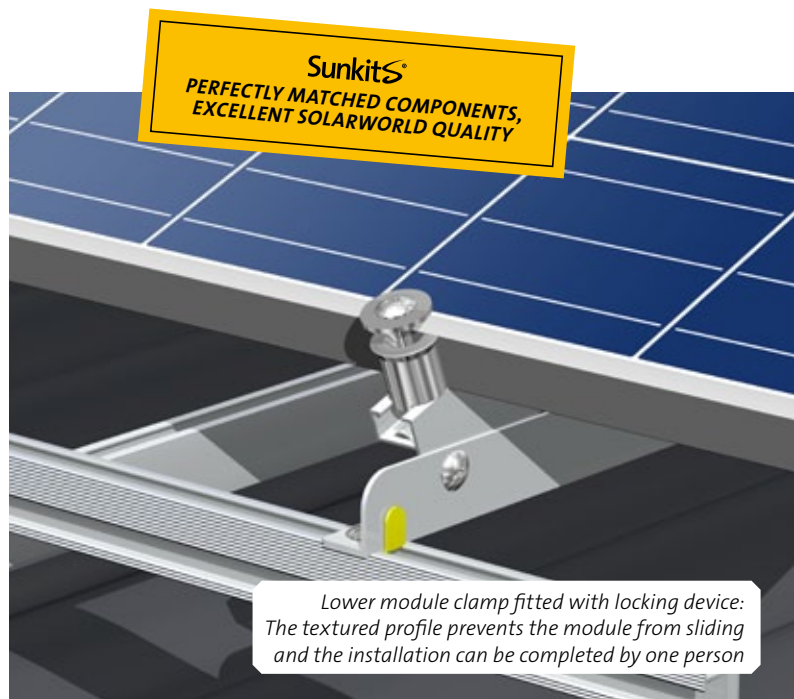
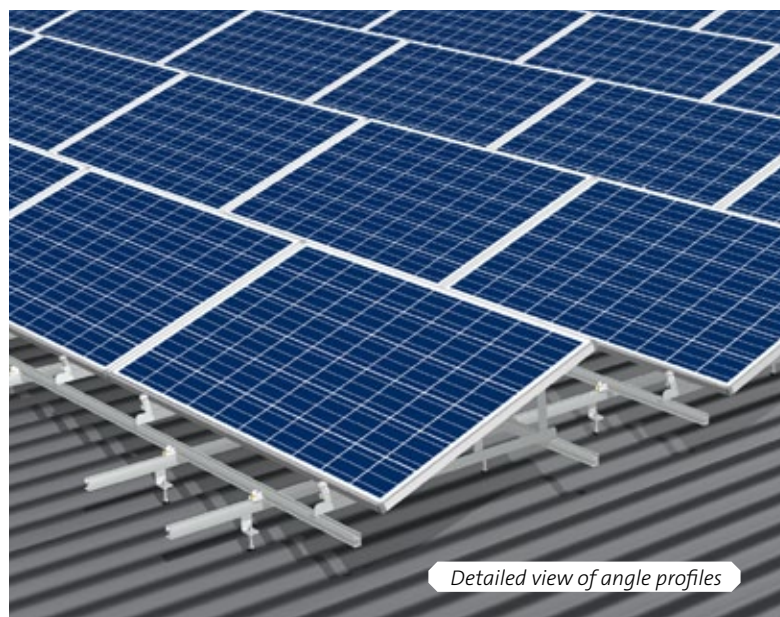
Sunfix® plus – The ideal mounting system for flat roofs

The Sunfix® plus mounting system for flat roofs is suitable for all standard roof structures and turns any flat or slightly pitched roof into an effective high-yield surface for your customers. The supporting structure allows for the free-standing installation of SolarWorld quality modules both with and against the roof pitch. Module pitches of 15, 20 or 30 degrees ensure flexible installation on any roof, allowing you to optimize the efficiency of the solar modules. They can also be installed up to 5 degrees different to the roof pitch and easily individually aligned. Perfect pre-assembly: The pre-assembled SolarWorld Sunfix® plus frames are made of three lightweight aluminum angle profiles that simply need to be bolted into place. SolarWorld quality right down to the smallest detail: All fixing and connecting elements are made of high-quality stainless steel or aluminum. The mounting profiles are installed in a single or double layer under the flat roof frame and the roof structure. This ensures the stability of the flat roof system.

PRODUCT BENEFITS

- >> Suitable for all standard roof structures
- >> Light aluminum frame ensures low roof load
- >> Optimum use of space thanks to the wide range of installation options
- >> Cost-efficient installation thanks to pre-assembled system
- >> Few tools required due to standardized components
- >> Flexible tilt angle for optimized module efficiency
- >> Only high-quality components are used ensuring stability and durability





Sunfix^{plus} *technical data*

DETAILS

- > Low frame weight starting from 6 kg/m²
 - > Suitable for vertical and horizontal solar module installation
 - > Can be used as a single or double-layered system
 - > Certified statics according to Eurocode 1 / DIN 1055 in the Sunkits®
 - > Optionally available with theft protection
-



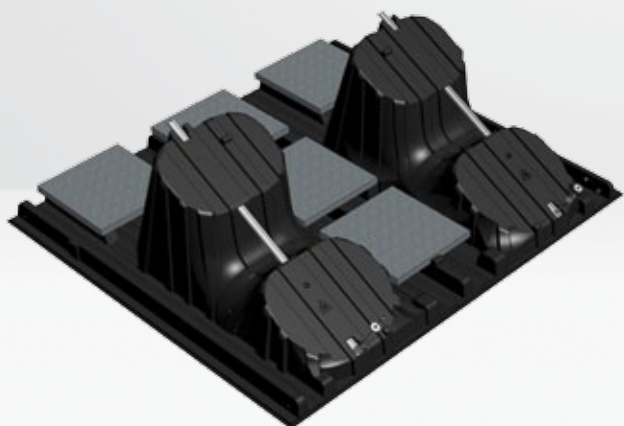
Suntub® – Powerful flat roof system

The SolarWorld Suntub® flat roof system is extremely versatile and easy to install. It is perfectly suited for roofs with a pitch of up to 6 degrees, for example, on company buildings or bungalows. Suntubs® can be fitted with different module types. Each Suntub® consists of two identical plastic elements that are easily slotted together and can be weighted down with the required ballast. The best part: You do not need a frame for the installation. As with all Sunkits®, the perfectly matched components make it especially quick and easy to install. The optimized shape of the mounting system provides excellent rear ventilation and ensures that the solar modules deliver outstanding efficiency. Thanks to their special shape, Suntubs® generate about 3 percent more energy than conventional flat-roof tub installation systems. Another advantage of the Suntubs® is their aerodynamic design, which reduces wind resistance and keeps the roof load to a minimum.

PRODUCT BENEFITS

- » Small number of individual components for very fast installation
- » Reduced ballast load through minimized roof loads
- » No penetration of the existing roof membrane or floor covering
- » Extremely stable thanks to a special profile that withstands wind and snow loads
- » Great module yield thanks to optimum shape and excellent rear ventilation
- » Easy to transport and install: Low dead weight, the plastic elements can be easily stacked and the aluminum profiles feature a proven clamping technique





Each Suntub® consists of two identical plastic elements

Sunkits®
 PERFECTLY MATCHED COMPONENTS,
 EXCELLENT SOLARWORLD QUALITY



The solar module is inserted from above and fastened using clamp connectors

Suntub® *technical data*

DETAILS

- > Basic material: 100 % recyclable UV-resistant HDPE
 - > Modules: Sunmodule Plus®
 - > Optimum module tilt: 28°
 - > Permitted roof pitch: 0° to 6°
 - > Required ballast: Gravel, concrete slabs (recommended slab dimension 40 x 40 cm)
 - > Can be used in temperatures ranging from: -40 °C to +85 °C
-



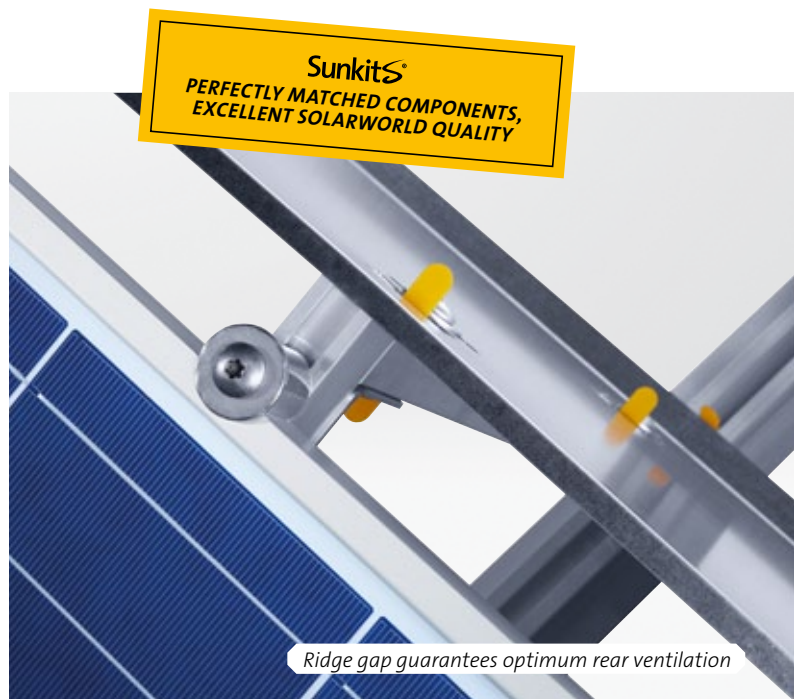
Sunfix® aero – Low-ballast flat roof system

The name says it all: The Sunfix® aero system is ideally suited for flat roofs with low load reserves that would typically not be able to support a solar system. The various models with a pitch of 10, 15 or 25 degrees can be optimized according to their specific yield and system capacity. The Sunfix® aero can be installed on roofs with a pitch of up to 5 degrees without penetrating the roof at all. Maximum performance and minimum weight: The stainless steel and aluminum mounting system was developed according to aerodynamic principles and ensures minimum point loads and surface loads. Adjustable screw fittings and clamps on the long sides of the modules ensure increased stability and make it possible to match the system to the building. The base and ridge gap provides the SolarWorld quality modules with optimum rear ventilation for increased performance. With Sunfix® aero, you'll also benefit from the all-inclusive package from SolarWorld, which is available with the Sunkits®.

PRODUCT BENEFITS

- >> The aerodynamic design means less ballast is required, so the system can be installed on roofs with low load reserves
- >> No penetration of the sensitive roof membrane
- >> Quick and easy installation thanks to the pre-assembled, easily transportable system elements
- >> Optional lightning protection available
- >> Optimum rear ventilation through the base and ridge gap increases the solar module performance





Sunfix^{aero} *technical data*

DETAILS

- > Tilt angle 10°, 15° or 25°
- > Suitable for flat roofs with a pitch of up to 5°
- > System weight approx. 10 kg/m² (standardized with 25° version)
- > Frame / base static friction $\mu = 0.60$ required
- > Suitable for Sunmodule Plus®
- > Minimum system size: 3 x 3 modules
- > High-quality components made of galvanized steel, stainless steel and aluminum

Comparison of the ballast load for a building height of 8–10 m

Sunfix^{plus}



Suntub[®]



Sunfix^{aero}





SunCarport® – Power generation and weather protection

Truly multitasking: The SolarWorld SunCarport® not only protects your car in any wind or weather, but it also creates an additional surface area for producing clean solar energy. Intelligent mobility: Electric cars will soon become commonplace on our streets and the SunCarport® represents a vital contribution to this new kind of mobility. It acts like a solar service station where electric and hybrid vehicles can recharge their batteries. Individuality and outstanding quality: Just like every Sunkits®, the SunCarport® features SolarWorld quality modules, a matching inverter and a durable mounting frame. Anodized aluminum and powder-coated stainless steel components make it durable and virtually indestructible. In addition to the standard versions, SolarWorld also offers carports with reinforced components for particularly heavy snow and wind loads. SunShed® is a smaller model providing a waterproof roof for e-bikes, scooters or garden equipment. SunShed® can be flexibly installed directly at your house, in your garden or in open outdoor space.

PRODUCT BENEFITS

- >> Carport and solar charging station in one
- >> Includes a Sunkits®, the high-quality all-in-one solution
- >> Can be used to charge electric cars and e-bikes with solar power
- >> High-quality materials
- >> SunShed®: Smallest complete solar mounting kit on the market



Sunkits®
 PERFECTLY MATCHED COMPONENTS,
 EXCELLENT SOLARWORLD QUALITY



SunCarport® blue installed lengthwise



SunCarport® black installed crosswise



SunCarport® blue as a dual carport

SunCarport® technical data (SolarWorld SunCarports® with an inclination of 10°)

	LENGTHWAYS AS A SINGLE CARPORT	CROSSWISE AS A SINGLE CARPORT	LENGTHWAYS AS A DUAL CARPORT
Generator	9 modules SW 240 (3 x 3)	10 modules SW 240 (5 x 2)	15 modules SW 240 (5 x 3)
Overall output	2.16 kWp	2.4 kWp	3.6 kWp
Inverters	SMA	SMA	SMA
Standard / heavy duty weight	535 / 562 kg	717 / 748 kg	1100 kg
Width	3220 mm	5241 mm	5241 mm
Length	5098 mm	3412 mm	5098 mm
Front height	2011 mm	2011 mm	2015 mm
Rear height	3024 mm	2829 mm	3005 mm
Available as a	SUNCARPORT® BLUE The standard solution: SunCarport® with blue polycrystalline modules (SW 240 poly)		SUNCARPORT® BLACK The designer solution: SunCarport® with black monocrystalline modules (SW 240 mono black)

SunShed® technical data (SolarWorld SunShed® with an inclination of 10°, installed crosswise)

Generator	5 modules SW 240
Overall output	1.2 kWp
Standard / heavy duty weight	430 / 450 kg
Total area	7.9 m²



Suntrol® portal



Suntrol® live

Suntrol® – Keeping performance data in view

With Suntrol® products from SolarWorld, you can display the yield of your solar system clearly and monitor all the system data conveniently online. The Suntrol® Internet portal provides system operators with an overview of all their performance data on a PC or smartphone at all times. The Suntrol® data logger is connected to the inverter and displays the daily yield minute by minute. Moreover, the monthly and annual yields are recorded and graphically evaluated. And if you use an electronic domestic supply meter, there is an added option for displaying your own energy consumption. This provides a precise overview of how much of your own electricity you have consumed and when, as well as tips on how to increase this amount. Efficient yield monitoring helps to quickly detect possible deviations and remedy their causes. This enables your customers to recognize any system errors before they receive their invoice. [WWW.SUNTROL-PORTAL.COM](http://www.suntrol-portal.com)

PRODUCT BENEFITS

- >> Free portal for monitoring yields and the amount of electricity you produce
- >> Fault warning system saves your customers money
- >> Mobile system monitoring with Suntrol® mobile for all smartphones and tablet PCs
- >> Option for presenting your own reference systems with the Suntrol® portal and Suntrol® mobile
- >> The amount of self-generated electricity consumed can be controlled via the Suntrol® live in combination with the SunPac® battery system





Suntrol® data logger



Suntrol® display



Suntrol® mobile

Suntrol® product family

SUNTROL® PORTAL / KOSTAL INVERTERS

Kostal brand inverters feature an integrated data logger that records the yields of the solar system. This data is then transmitted to the Suntrol® portal, where it is evaluated and visualized.

SUNTROL® LIVE

Suntrol® live is the latest member of the Suntrol® product family. It enables you to monitor and control your electricity production via a smartphone or tablet PC. But what makes Suntrol® live really stand out is its real-time display of performance data and the control of loads via WLAN. This function enables you to further increase consumption of your own electricity and it also stores past statistics in the Suntrol® portal at the same time. The application is directly connected to the Sunny WebBox, the communication interface between the inverter and router, via WLAN.

SUNTROL® DATA LOGGER

The Suntrol® data logger enables comprehensive monitoring of the solar system. It is connected to the inverter via a RS485 interface or, optionally, via Bluetooth. It comes in three versions to suit systems of different size and scope.

SUNTROL® DISPLAY

With the Suntrol® display, you can conveniently display and check the performance, yields and CO₂ savings. The display visualizes the current performance data inside and outside a building.

SUNTROL® MOBILE

Suntrol® mobile gives you an overview of your solar system's performance data and current yield situation 24/7, no matter where you are. There's a Suntrol® mobile app for all Apple smartphones and tablet PCs and Android operating systems, and now there's even a web view for all smartphones.



SunPac® – Innovative solar power storage system

Consume, store or feed electricity into the grid: With the SunPac® battery system from SolarWorld, you can decide how you want to use the solar power you produce. Increasing the amount of power you consume directly makes you more independent from energy providers and future electricity prices. An electricity meter measures the energy flow between the grid and your home. If more power is generated than you need, the storage system will charge the battery. Conversely, if you're not generating enough power, the battery will feed additional energy into your home. In poor weather conditions, at night or in the event of a power outage, the battery system together with the special Sunny Backup charge controller switches to battery operation. In this way, the supply won't be interrupted. The Suntutrol® visualization software allows you to monitor the amount of solar power you generate and your consumption on a PC or smartphone. SunPac® can be added to both new and existing solar systems.

PRODUCT BENEFITS

- » Innovative technology that meets the highest standards
- » Supplied as a complete system kit for various system sizes
- » Suitable for new and existing solar systems
- » Option for increasing the amount of electricity you consume directly
- » Fixed electricity prices for greater independence from energy providers
- » Secure power supply, thanks to coverage during power outages
- » Environmentally-friendly recycling in cooperation with the battery manufacturer

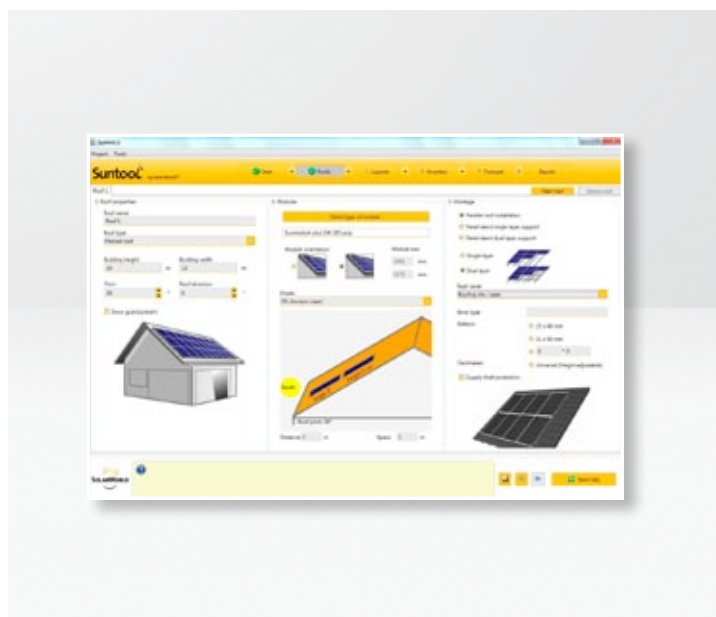




Monitoring with Suntrol®

SunPac[®] technical data

GENERAL SPECIFICATIONS	SUNPAC [®] S 6.9	SUNPAC [®] S 13.8
Rated power in grid operation	5.7 kW / 25 A	5.7 kW / 25 A
Phase number	1-phase	1-phase
Phases for backup operation	1	1
Backup power (duration / 30 min / 1 min)	2.2 kW / 2.9 kW / 3.8 kW	2.2 kW / 2.9 kW / 3.8 kW
Rated voltage	230 V / 50 Hz	230 V / 50 Hz
Rated input for AC PV power	4.6 kW / 20 A	4.6 kW / 20 A
Protection class (SBU / AS Box / battery)	IP54 / IP65 / IP25	IP54 / IP65 / IP25
Permitted grid type	TN	TN
Number of Sunny Backups	1 x SBU 2200	1 x SBU 2200
DIMENSIONS		
Dimensions SBU (W / H / D in mm)	470 / 445 / 180	470 / 445 / 180
Dimensions AS Box (W / H / D in mm)	200 / 300 / 120	200 / 300 / 120
Dimensions per battery bank (W / H / D in mm)	930 / 860 / 250	930 / 860 / 250
Number of battery banks	1	2
BATTERY		
Cycle life	approx. 2700 cycles with 50 % DoD	approx. 2700 cycles with 50 % DoD
Battery service life	approx. 13.5 years (200 cycles/yr.)	approx. 18 years (150 cycles/yr.)
Battery voltage	24 V	24 V
Energy / capacity (C10)	6.9 kWh / 289 Ah	13.8 kWh / 578 Ah
Weight (SBU / AS Box / battery)	19 kg / 4.5 kg / 292 (4 x 73 kg)	19 kg / 4.5 kg / 584 (8 x 73 kg)



Suntool® 2 – Professional design software

The Suntool® software was especially developed by SolarWorld for installers, planners, wholesalers and architects. With Suntool®, you can plan solar systems for virtually every roof surface in just a few minutes. Simply enter the desired system type, select the relevant mounting system and use the software to trace the available roof area for the solar system. In just a few seconds, the program calculates the maximum possible number of solar modules as well as the amount of inverters required. The software also features detailed yield forecasts, result reports and a data sheet for kit planning. Regional irradiation data, cost and yield estimates and financing possibilities are all included in the calculations. Regular updates can be accessed via the Internet and ensure that the program is always up-to-date.

New: Suntool® now allows you to plan for two different performance classes (SW 196 poly and SW 245 poly) within one single solar system.

PRODUCT BENEFITS

- » Uncomplicated system planning and yield calculation with professional planning software
- » Especially developed for installers, planners, wholesalers and architects
- » Quick and easy to use thanks to the user-friendly interface
- » Straightforward document generation and management for preparing quotes
- » Always up-to-date thanks to free Internet updates
- » **New:** Optional planning of two different performance classes within one single solar system





Suntool² *technical data*

SYSTEM REQUIREMENTS

- > Windows XP or higher (Windows 7; Windows Server 2003 Service Pack 2; Windows Server 2008; Windows Server 2008 R2; Windows Vista Service Pack 1; Windows XP Service Pack 3)
- > Net Framework 4.0
- > Windows Installer 3.1 or higher
- > Internet Explorer 6.0 or higher
- > Processor: 1 GHz or higher
- > RAM: at least 1 GB
- > Hard drive: at least 100 MB free storage space
- > Screen resolution: at least 1024 x 786
- > Internet connection for updates

LICENSE TERMS

You must accept the license terms prior to using the Suntool® software. They are displayed automatically when the CD starts. If you reject the contract, you can return the product and get your money back within two weeks after receiving the software. In such instances, you may not install or use the software.



Sunpass® – Individualized quality and performance documentation

SolarWorld quality is not only evident in their high-quality products, but also in the way entire projects are managed, from the planning and professional installation to the comprehensive documentation of all important system data. With SolarWorld, everything's available from a single source. For example, with the Sunpass® folder in German, English or French, you can provide your customers with comprehensive, individual system documentation. And when they buy a Sunkits®, they'll receive all the necessary background information on the SolarWorld solar system for free – everything from the individual components and detailed construction plans, data sheets and warranty agreements. The added value for your customers: With the Sunpass® folder, your customers will always have access to their solar system's performance data, also for potential requests from the sector or for maintenance. The Sunpass® reflects your high-quality work – even after the system is installed.

PRODUCT BENEFITS

- » Individualized SolarWorld system documentation for your customers
- » All important documents are clearly organized according to DIN IEC 62446
- » System data compiled in advance to save time
- » Available as a practical folder or PDF document
- » Comprehensive documentation illustrating the quality of the work
- » Sustainably produced
- » Free delivery with each Sunkits®





SunpasS® technical data

EACH SUNPASS® INCLUDES THE FOLLOWING:

- > Concise documentation of the solar system
- > Warranty agreements
- > Certification
- > Data sheets
- > Individualized quality and performance documentation
- > Certificate from a specialist installer verifying the correct installation
- > Sunkits® special insurance certificate (free for two years, can be extended to five years upon request)
- > Additional record for all correspondence regarding the solar system



Sunkits® – Free special insurance for solar systems

Service from a single source: SolarWorld offers a customized insurance concept for all newly installed Sunkits®. The free special insurance is included with the kit at the system operator's request. In cooperation with the ERGO Insurance Group, SolarWorld has developed a safety concept that covers property damage to the solar system as well as the associated risk of operational interruptions. Yield losses resulting from reduced performance are also covered. System operators can select between a two or five-year term and the insurance is free for the first two years. If it is extended to a five-year term, a reasonably priced one-off premium is charged for the additional three years. There is no minimum premium. SolarWorld is the policy holder; the system operator is also insured by a framework agreement and is the beneficiary in case of damage. This is how we save your customers the inconvenience of conducting complicated research and negotiations in advance. After the selected term has expired, the insurance expires without requiring termination.

PRODUCT BENEFITS

- >> Available upon request for all newly installed Sunkits®
- >> Individual insurance for solar systems
- >> Maximum security for your solar investment
- >> Free two-year insurance coverage for the two or five-year term
- >> No minimum premium
- >> Quick and simple application process
- >> Insurance expires automatically after the term expires





Sunkits® *special insurance: targeted cover*

A) THE ALL-RISKS INSURANCE

Covers unforeseeable property damage and insured objects lost through theft, burglary or looting. In particular, the insurance covers damage caused by:

- Operating errors, ineptitude or willful intent by third parties
- Short-circuit, overcurrent and overvoltage
- Failure of measuring, control or safety equipment
- Fire, lightning strike, explosion
- Water or moisture
- Storms, hail, frost, ice drift, flooding or snow load
- Animal bite

B) OPERATIONAL INTERRUPTION INSURANCE

Compensation for any lost electricity feed-in revenue if the functioning of the solar system is interrupted or adversely affected by property damage or loss. The maximum compensatory payment is available as of the first day the system fails for maximum one year.

C) REDUCED YIELD INSURANCE

The reduced yield insurance offers unique extended coverage. A claim can be made if the level of the predicted annual energy yield is not reached by more than 10 percent due to insufficient solar irradiation.

D) CONSTRUCTION COVERAGE

This type of insurance is valid from the start of the installation phase, for maximum of 3 months. The construction coverage provides compensation for property damage caused by:

- A. Fire, lightning strike, explosion, impact or if an airplane crashes into the construction, or an airplane's parts or cargo fall from the sky.
- B. Storm or hail and loss due to theft of insured components securely connected to the building and burglary of securely stored, insured items.

Requirements for the insurance:

- All details regarding the installer and system operator must be included in the documentation at the time the order is placed.
 - Purchase of a complete Sunkits® or a SunCarport®
-



SunCharger® – Solar system for your pocket



The SolarWorld SunCharger® is the world's first mobile device to combine a power supply, battery and solar generator in one. Cell phones, cameras and MP3 players obviously require power when you take them with you on vacation or business trips. SunCharger® supplies power at all times, eliminates the need to carry around many different chargers and extends the operating time of your smartphone. Its integrated solar cell generates climate-friendly power, which allows you to power mobile devices using a USB cable. The high-performance silicon cells fitted on top of the device charge the SunCharger® battery on demand and at any time. You can increase the solar cell area by opening the sliding device. SunCharger® is your high-quality companion for a green lifestyle. Its modern design has even been honored with a red dot design award. Generate your own climate-friendly solar power and never go without a power supply – those are the benefits of the SolarWorld SunCharger®.

PRODUCT BENEFITS

- >> 3 in 1 – SunCharger® is a power supply, additional battery and solar charger
- >> Practical size when you're on the go – you can use it anywhere, any time
- >> Independence from the public grid
- >> USB connection ensures compatibility with a wide range of devices
- >> Green lifestyle product





SUNCHARGER® *technical data*

DETAILS

Dimensions (W x H x D)	78 x 115 x 23.8 mm
Weight	200 g
Solar cell area	10.470 mm ²
Input voltage	100–240 V~ / 50–60 Hz / 130 mA
Output voltage	5 V
Output current	500 mA to 600 mA according to USB specifications
Internal battery capacity	≥ 1200 mAh
Rated battery voltage	3.7 V
Operating temperature	0°C to +40°C
Certification	VDE-tested, IEC 60950-1



reddot design award
winner 2012



Find out more

Do you have any questions about SolarWorld's quality standards or individual products? Then don't hesitate to contact us. We will gladly provide you with additional information and show you exactly how SolarWorld can prepare you for the solar future today.

SIMPLY CALL US OR SEND US AN EMAIL:

PHONE: +49 228 55920-240

 ***SERVICE@SOLARWORLD-GLOBAL.COM***

SolarWorld AG
Martin-Luther-King-Str. 24
53175 Bonn
Germany
Phone: +49 228 55920-0
Fax: +49 228 55920-99
service@solarworld-global.com

www.solarworld.com



We turn sunlight into power.