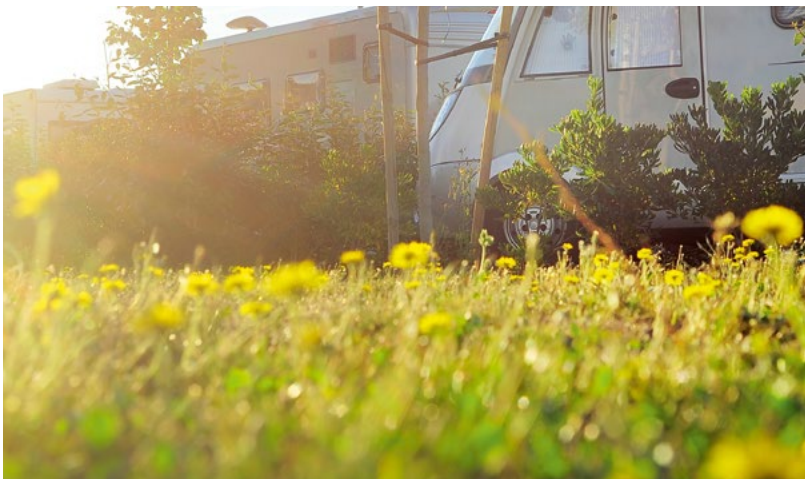


SOLARA®
module. komponenten. systeme



SOLAR POWER WHERE I NEED IT



For travellers and
stand alone systems





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SEVERAL WAYS TO REACH US

- Phone: +49 (0)40-300 66 82-0
- e-mail: info@solara.de
- Web: www.solara.de

Quality

Made in
Germany

Each SOLARA panel has an unchangeable serial number protected behind the front glass.



The standardized label on the backside informs about the panel type, the power and additional technical data.

SOLARA®		S 360M36 Ultra (SM)
system voltage	U _s 12 V	Systemspez.
nominal power STC	P _{max} 90 Wp	Nennleistung
power tolerance	±P ±1,5%	Leistungsabweich.
nominal voltage	U _{nom} 18,00 V	Spannung bei Nennleistung
open circuit voltage	U _{oc} 21,90 V	Leerlaufspannung
nominal current	I _m 5,00 A	Strom bei Nennleistung
short circuit current	I _{sc} 5,45 A	Kurzschlussstrom
daily performance up to order number	E _h 360 WWh/d 611090101	Ertrag
10 countries	CE	10 countries

The extremely stable, untwist able hollow profile frame is made of seawater resistant aluminum. The edges are stabilized by solid aluminum angles.



The modern water protected junction box (IP65) is not higher than the frame and is pre-wired with 90cm 4qmm MC4 compatible solar cable.



NOT ALL SOLAR PANELS ARE THE SAME

Solara – always a good choice

SOLARA – QUALITY SINCE 18 YEARS

SOLARA complete photovoltaic systems, components and solar modules are primarily being used in places with is no reliable electricity grid: in remote geographical locations; at sea; in technological equipment; in traffic control and telecommunications systems.

SOLARA stand-alone solutions are also used in caravans, motor homes, boats and yachts to generate off-grid electricity.

SOLARA stand-alone-systems are designed to work flawlessly in a wide range of climate conditions. They are extremely robust, can be used flexibly and generate maximum electricity yields even in unfavorable light conditions.

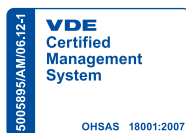
To ensure the quality and performance capabilities of the SOLARA product range, all panels and mounting systems are manufactured in Germany. Every solar panel is tested and certified according to stringent quality standards and ISO requirements. Every completed solar panel is measured according to the international STC protocol and registered with an unchangeable serial number.

WE SUPPLY SOLUTIONS

- High quality of service before and after sale
- Best quality of material and workmanship
- High electric efficiency and long-lasting warranty
- High-value additional components from premium manufacturers

CERTIFICATION AND TESTS

- Mechanical load tests
- Weather-proofness of the cell embedding
- Climate test of the whole solar panel
- Salt water resistance tests
- Degradation tests
- Testing the cells for micro cracks
- Stability of the soldered connections
- Inhouse tests



- Qualified, IEC 61215
- Safety tested, IEC 61730
- Heavy Snow Load tested
- Ammonia resistance tested
- Salt corrosion resistance tested

SYSTEM DESIGN

Independent power supply

SYSTEMS FOR EVERY NEED

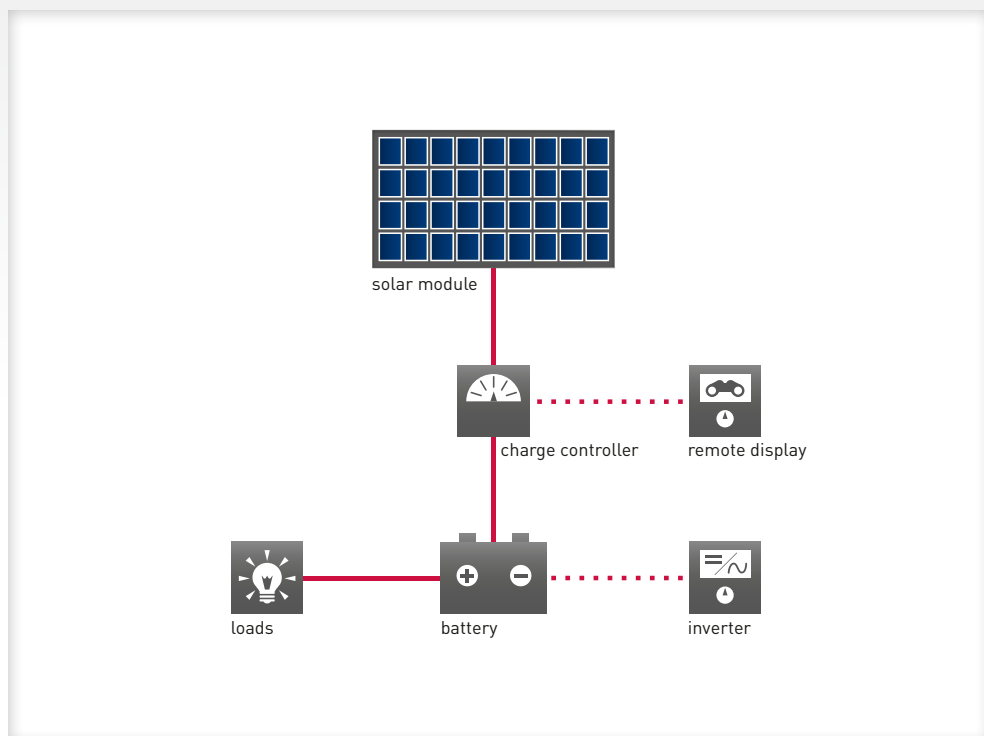
Reliability in power supply, even for smaller loads, is the most important criteria. Alpine huts or measurement stations, in many cases just a small solar system can secure an independent power supply – even without complicated inverter technology.

Advantage of such small DC-coupled system are quick installation times and easy transport to the site. Nevertheless, such systems are able to give energy for light, radio, TV or fridges.

MAXIMUM FLEXIBILITY

Such a system is a solid basis for more complex systems in the future. The modular layout ensures flexibility. Additional components can be added step by step to adopt the system to an increasing energy demand.

THE PRINCIPLE



TALK TO US. WE LIKE TO ASSIST YOU.

TIPPS FOR SYSTEM LAYOUT

SOLARA in mobile applications

To find out which of our panels are best suited to your and your vehicle's needs, take a closer look at your usage conditions first. The total energy consumption is calculated from the number of users, the vehicle size, and the points of consumption.

- Do you usually travel by yourself or with your family?
- Do you use your caravan or RV just in the summer, just on weekends, or all year long?
- Sunny days and sunshine intensities vary considerably between northern and southern Europe. Do you travel more in the North or more in the South?

HOW TO CALCULATE YOUR DAILY ENERGY REQUIREMENTS

To get a reliable reference value for your daily energy requirements, list the power of all the individual appliances in your vehicle, such as lights, radio, refrigerator, and multiply them with their average usage periods. Add these to each other to figure out your total energy requirements in watt hours per day (Wh/d).

Device	Nominal power	Usage duration	Consumption
Radio	15 W	4 hours	60 Wh/day
Color TV	40 W	3 hours	120 Wh/day
Sat-receiver	40 W	3 hours	120 Wh/day
Lamps	10 W	5 hours	50 Wh/day
Freezer	50 W	6 hours	300 Wh/day

Total daily requirement = 650 Wh/day

HOW TO SELECT THE SOLAR PANELS THAT MEET YOUR INDIVIDUAL REQUIREMENTS

SOLARA panels for leisure use are available in different power classes and designs. When selecting panels for your vehicle, make sure to take into consideration when and how often you travel. If in doubt, go for the next higher performance category or add a second panel – so you have a more reliable energy source and you can charge faster during sunlight hours.

Wählen Sie

- one or more S405M36 Ultra solar panels for summer-only or weekend use
- one or more S560P36 Ultra panels for all-year use
- for exceptionally high demands regarding power safety, the SOLARA Power panels guarantee highest yields out of the smallest possible space

Which system for which user?

The overviews below list typical usage examples for the different system sizes available for small, medium-sized and large caravans.

Solar system with 100 Wp (400 Wh/d)

- Ideal for small to medium-size caravans
- Usage period: April to September
- Electricity is used for lights, pump, radio, TV/satellite

Recommended SOLARA Complete Sets:

Starter Pack SP01, Profi Pack PP01, Premium Pack PRP01 or Power Pack POP01

Solar system with 100 - 200 Wp (400 - 800 Wh/d)

- Ideal for medium to large-size caravans
- Usage period: all year long
- Electricity is used for lights, pump, radio, TV/satellite

Recommended SOLARA Complete Sets:

Profi Pack PP01-PP03, Premium Pack PRP01-PRP03 or Power Pack POP01-POP02

Solar system with more than 200 Wp (800 Wh/d)

- Ideal for medium to large-size caravans
- Usage period: all year long
- Electricity is used for lights, pump, radio, TV/satellite, compressor fridge

Recommended SOLARA Complete Sets:

Premium Pack PRP04 or Power Pack POP02-POP03

SOLARA COMPLETE SETS

Performance and Technology for every demand

You are looking for a premium solar complete set at a fair price? Look no further, the SOLARA products are the right choice!

SOLARA provides solar sets with solar panels made at the highest technical standards. Ideally matched high-quality charge controllers and mounting systems designed by SOLARA with TÜV-approved safety.



SOLARA STARTER PACK

The SOLARA Starter PACK is the best choice for beginners. One high performance solar panel, a high-quality serial controller, specially coated UV-resistant SOLARA ABS spoilers, a roof grommet and an adhesive set as well as all connecting wires are making this set easy to install.

In all Solara solar panels are 36 tested high-performance cells which guaranties good yields in the most diverse weather conditions.

The included solar charge controller can be adapted to various battery types and allow for the addition of one more solar panel of the same performance class.

Comprehensive and elaborate mounting instructions for each of the components ensures a trouble-free installation, everything is plug-and-play.

Unpack – install – done!

STARTER PACK AT BEST PRICE

- 100 W
- 10 A charge controller



SOLARA PROFI PACK

The SOLARA Profi PACK includes high performance solar panels from the Solara S-Series, a Schaudt charge controller, specially coated UV-resistant SOLARA ABS spoilers, a roof grommet and an adhesive set as well as all connecting wires. Because of the Schaudt controller this set is ideal for RV's with Schaudt's EBL-bloc.

Solara modules are know for long life performance even under harsh condition. Due to their high sensitive solar cells they produce best yields even under low light conditions.

The attached EBL-dual-bank controller is ready for the direct connection of Schaudt's EBL bloc in your RV. He is able to charge also the engines battery at the same time. The size of the controller allows the addition of an extra panel with the same power later on without changing anything.

Comprehensive and elaborate mounting instructions for each of the components ensures a trouble-free installation, everything is plug-and-play.

Unpack – install – done!

PROFI PACK ESPECIALLY FOR EBL-BLOC

- 100/150/200 W
- EBL-dual battery charger, 18 A



OUR COMPLETE SETS WIN BECAUSE OF

- Premium quality „Made in Germany“
- TÜV approved safety
- ideally adapted charging technology
- convincing and fair pricing
- wide variety of products - for panels and charge controllers
- 5 years product warranty for all components

5 YEARS PRODUCT WARRANTY



SOLARA PREMIUM PACK

With the Solara Premium Pack you will get more yields due to maximum solar panel performance. Additionally you can select between a high efficient Victron MPPT charge controller or outstanding robust MorningStar dual-battery- bank controller.

Select between maximum yield because of innovation charging technology for your battery or the security of having additionally always a fully charged engines battery, so that longer parking periods are no problem anymore.

The special coated UV-resistant Solara ABS spoilers and grommet in combination with the Solara FixPack guarantee a safe and durable installation.

Comprehensive and elaborate mounting instructions for each of the components ensures a trouble-free installation, everything is plug-and-play with the included connection cable.

For everyone the right solution!

PREMIUM PACK FOR EVERY NEED

- 100/150/200/300 W
- Dual-battery controller 25 A or MPPT controller 15/30 A



SOLARA POWER PACK

The Solara Power Pack is actually under technical and optical aspects the best-engineered complete solution available on the market. It stands for high modern back-contact solar cells with more than 22% efficiency combined with low space requirement and less weight.

The increased number of solar cells inside of the solar panel and the resulting high charging voltage combined with a high efficient MorningStar or Victron MPPT charge controller are making this set to one of most yielding ones.

Black colored, coated and UV-resistant ABS spoilers top off the good design.

5 years product warranty on all components emphasize the durability of this set – **more is not possible!**

POWER PACK FOR MAXIMUM YIELDS

- 110/140/220/280 W
- MPPT-controller 15/30 A



SOLARA Starter Pack

SCOPE OF DELIVERY – EVERYTHING IN ONE BOX

- SOLARA panel, S-Series with silver-colored frame
- SOLARA charge controller, 10 A, with LED display for displaying the battery charge condition
- ABS spoiler in white, specially coated, UV-resistant, screws included
- Roof grommet DD1 in white for completely watertight cable feedthrough
- Special glue set SOLARA FIX PACK for gluing the ABS spoilers
- Module connection cable, UV-resistant with MC4 compatible plugs
- Battery connection cable
- Detailed mounting instruction
- 5 years product warranty on all components
- Remote display optional available

THE SOLARA STARTER PACK

Type	SP01
Power (W)	100
Daily yield (Wh)	400
Solar panel (Type)	S405M36 Ultra
No. of cells (pc)	36
No. of solar panel (pc)	1
Solar panel size (mm)	1237 x 557 x 40
Total length incl. spoiler (mm)	1387

5 YEARS PRODUCT WARRANTY



IDEAL FOR RV'S WITH
SCHAUDT EBL-BLOC

SOLARA Profi Pack

SCOPE OF DELIVERY – EVERYTHING IN ONE BOX

- SOLARA panels, S-Series with silver-colored frame
- Schaudt EBL charge controllers, 18 A, incl. all connection cables
- ABS spoiler in white, specially coated, UV-resistant, screws included
- Roof grommet DD1 in white for completely watertight cable feedthrough
- Special glue set SOLARA FIX PACK for gluing the ABS spoilers
- Module connection cable, UV-resistant with MC4 compatible plugs
- Detailed mounting instruction
- 5 years product warranty on all components

ALL SOLARA PROFI PACKS

Type	PP01	PP02	PP03
Power (W)	100	150	200
Daily yield (Wh)	400	600	800
Solar panel (Type)	S405M36 Ultra	S600P36 Ultra	S405M36 Ultra
No. of cells (pc)	36	36	36
No. of solar panels (pc)	1	1	2
Solar panel size (mm)	1237 x 557 x 40	1500 x 680 x 40	1237 x 557 x 40
Total length incl. spoiler (mm)	1387	1650	2 x 1387

5 YEARS PRODUCT WARRANTY

WE GUARANTEE

- Premium quality "Made in Germany"
- 5 years product warranty for all components
- Security by TÜV testings
- Adapted charging technology
- Fair price calculation
- Product diversity with solar panels and controllers





SOLARA Premium Pack

SCOPE OF DELIVERY – EVERYTHING IN ONE BOX

- SOLARA panels from the S-Series with silver-colored frame
- MorningStar or Victron Dual battery or MPPT charge controller, 25 A/15 A/30 A
- ABS spoiler in white, specially coated, UV-resistant, screws included
- Roof grommet DD1 in white for completely watertight cable feedthrough
- Special glue set SOLARA FIX PACK for gluing the ABS spoilers
- Module connection cable, UV-resistant with MC4 compatible plugs
- Battery connection cable

- Detailed mounting instruction
- 5 years product warranty on all components
- Remote display optional available

ALL SOLARA PREMIUM PACKS

Type	PRP01	PRP02	PRP03	PRP04
Power (W)	100	150	200	300
Daily yield (Wh)	400	600	800	1200
Solar panel (Type)	S405M36 Ultra	S600P36 Ultra	S405M36 Ultra	S600P36 Ultra
No. of cells (pc)	36	36	36	36
No. of solar panels (pc)	1	1	2	2
Solar panel size (mm)	1237 x 557 x 40	1500 x 680 x 40	1237 x 557 x 40	1500 x 1237 x 40
Total length incl. spoiler (mm)	1387	1650	2 x 1387	2 x 1650
Charger	Victron, 15 A or MorningStar Duo, 25 A	Victron, 15 A or MorningStar Duo, 25 A	Victron, 15 A or MorningStar Duo, 25 A	Victron, 15 A or MorningStar Duo, 25 A

5 YEARS PRODUCT WARRANTY



SOLARA Power Pack

SCOPE OF DELIVERY – EVERYTHING IN ONE BOX

- SOLARA panels from the Power-S-Series with black-colored frame
- MorningStar or Victron MPPT charge controller, 15 A/30 A
- ABS spoiler in black, specially coated, UV-resistant, screws included
- Roof grommet DD1 in white for completely watertight cable feedthrough
- Special glue set SOLARA FIX PACK for gluing the ABS spoilers
- Module connection cable, UV-resistant with MC4 compatible plugs
- Battery connection cable
- Detailed mounting instruction
- 5 years product warranty on all components
- Remote display optional available

ALL SOLARA POWER PACKS

Type	POP01	POP02	POP03	POP04
Power (W)	110	140	220	280
Daily yield (Wh)	440	560	880	1120
Solar panels (Type)	S440M36 Ultra	S565M44 Ultra	S440M36 Ultra	S565M44 Ultra
No. of cells (pc)	36	44	36	44
No. of solar panels (pc)	1	1	2	2
Solar panel size (mm)	1237 x 557 x 40	1500 x 557 x 40	1237 x 557 x 40	1500 x 557 x 40
Total length incl. spoiler (mm)	1387	1650	2 x 1387	2 x 1650
Charger	Victron 15 A	Morningstar 15 A	Morningstar 15 A	Victron 30 A

5 YEARS PRODUCT WARRANTY

WE GUARANTEE

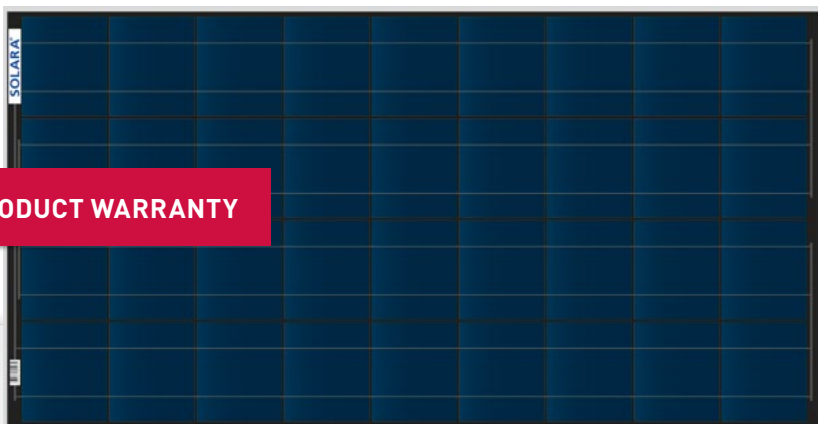
- Premium quality "Made in Germany"
- 5 years product warranty for all components
- Security by TÜV testings
- Adapted charging technology
- Fair price calculation
- Product diversity with solar panels and controllers



SOLARA S-SERIES

Robust and reliable

5 YEARS PRODUCT WARRANTY

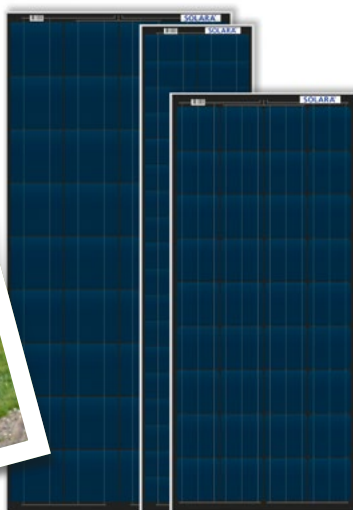


TOP QUALITY FOR PROFESSIONAL MOBILE APPLICATIONS

- Solar modules with 36 high-performance solar cells
- Sturdy, seawater-resistant aluminium frame
- As Vision available also in glass/glass technology
Very robust and walkable, carries up to 18.000 Pa

SECURE

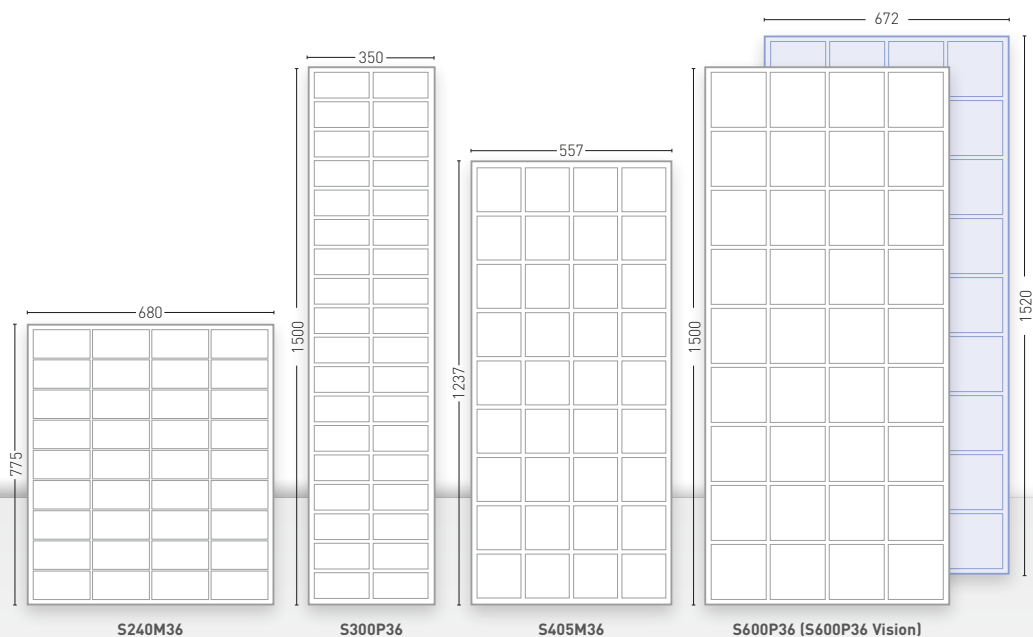
- Frame with dewatering holes to avoid frost damage
- Large, waterproof junction box with connection cable and MC4 compatible plugs
- Weather and water proof foil provides highest life expectancy even under extreme climatic conditions
- Ammonia resistant
- Saltwater resistant
- Hail resistant



WE GUARANTEE

- High performance also during low irradiation and months with diminished light
- Highest life expectancy even under extreme climatic conditions
- 5 years product warranty*
- Made in Germany

* Full terms of guarantee: www.solara.de

**60 W · 75 W · 100 W · 150 W**

PERFORMANCE AT STC*

Type	S240M36	S300P36	S405M36	S600P36	S600P36 Vision
Daily output in summer in Germany (Ø) Wh/d	240	300	400	600	600
Rated output (Pmpp) Wp	60	75	100	150	150
Short-circuit current (Isc) A	4.00	4.30	6.20	8.83	8.83
Open-circuit voltage (Uoc) V	21.90	22.70	21.50	22.90	22.40
Voltage (Umpp) V	17.40	19.10	17.20	17.90	17.90
Current (Impp) A	3.70	4.10	5.90	8.39	8.39

Dimensions and weight

Dimensions (L x B x H) mm	775 x 680 x 40	1500 x 350 x 40	1237 x 557 x 40	1500 x 680 x 40	1520 x 672 x 40
Weight kg	6.6	7.5	7.9	12.1	15.0
Cell dimensions mm	156 x 78	156 x 78	125 x 125	156 x 156	156 x 156

Thermal properties

TK Pmpp %/K	-0.45
TK Uoc %/K	-0.36
TK Isc %/K	0.03
NOCT °C	46 ± 2

Other technical data

System voltage	1000 V
Reverse current carrying capacity IR	12 A
Measuring accuracy Pmpp at STC	± 5 %
Glass thickness (Ultra)	3.2 mm
Glass thickness (Vision)	2 x 2 mm

Material used

Cell technology	mono or poly crystalline
Number of cells	36 pc
Front	tempered solar glass
Frame	anodized aluminum hollow profile, silver
Junction box	IP65 with MC4 compatible connector

Date 05/2016. Errors and omissions excepted. Technical changes reserved.



*Performance at STC, Standard Testing Conditions: 1000W/m², AM 1.5, cell temperature 25° C

SOLARA POWER S-SERIES

Highest yields guaranteed

MORE CELLS FOR MAXIMUM YIELDS

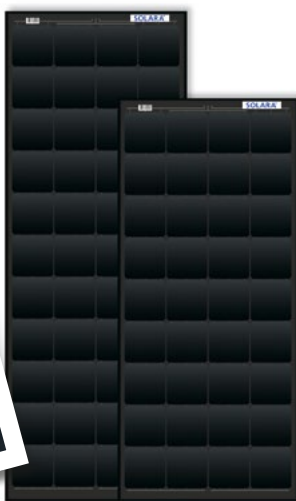
5 YEARS PRODUCT WARRANTY

MAXIMUM POWER WITH PERFECT DESIGN

- Elegant and attractive design with black finishing
- Slim shape – for a wide range of applications
- Increased number of cells for best performance
- Latest back-contact cell technology with 22% of cell efficiency

HIGHEST LIFE EXPECTANCY EVEN UNDER EXTREME CLIMATIC CONDITIONS

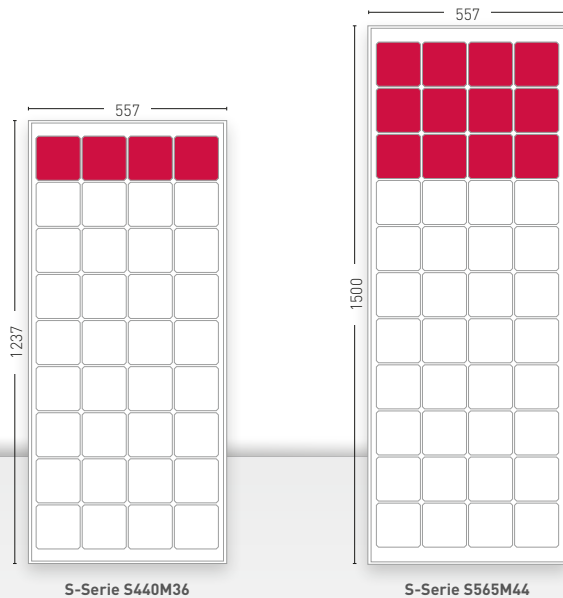
- 3.2 mm, scratch-resistant thermally hardened thin glass
- Excellent mechanical load resistance thanks to its torsion-resistant module frame
- Especially developed for permanent operation at extreme heat as well as high humidity



WE GUARANTEE

- Highest yields due to mono crystalline Back-Contact solara cells with over 22 % back-contact cell efficiency
- Best low-light behaviour
- 5 years product warranty*
- Made in Germany

* Full terms of guarantee: www.solara.de



S-Serie S440M36

S-Serie S565M44

36 CELLS FOR 110 WATT
44 CELLS FOR 140 WATT

PERFORMANCE AT STC*

Type	S440M36 Ultra	S565M44 Ultra
Daily output in summer in Germany (Ø) Wh/d	440	565
Rated output (Pmpp) Wp	110	140
Short-circuit current (Isc) A	6.02	6.14
Open-circuit voltage (Uoc) V	24.06	29.63
Voltage (Umpp) V	20.25	25.10
Current (Impp) A	5.43	5.58

Dimensions and weight

Dimensions (L x B x H) mm	1237 x 557 x 40	1500 x 557 x 40
Weight kg	7.9	9.9
Cell dimensions mm	125 x 125	125 x 125

Thermal properties

TK Pmpp %/K	-0.38
TK Uoc %/K	-0.28
TK Isc %/K	0.057
NOCT °C	46 ± 2

Other technical data

System voltage	70 V
Reverse current carrying capacity IR	12 A
Measuring accuracy Pmpp at STC	± 5 %
Glass thickness	3.2 mm

Material used

Cell technology	mono crystalline
Number of cells	36/44 pc
Front	tempered solar glass
Frame	anodized aluminum hollow profile, silver
Junction box	IP65 with MC4 compatible connector

Date 05/2016. Errors and omissions excepted. Technical changes reserved.



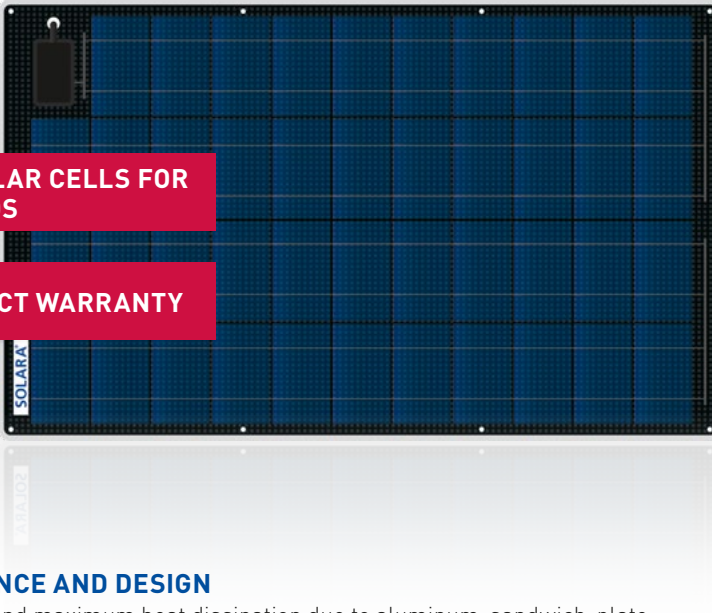
*Performance at STC, Standard Testing Conditions: 1000W/m², AM 1.5, cell temperature 25° C

SOLARA M-SERIES

Premium quality for professional use

**ADDITIONAL SOLAR CELLS FOR
MAXIMUM YIELDS**

5 YEARS PRODUCT WARRANTY



APPEARANCE AND DESIGN

- Stability and maximum heat dissipation due to aluminum-sandwich-plate
- Thanks to innovative cell-chaining technique semi-flexible (up 3 %) mountable
- Walkable
- Extremely resistant protective Nowoflon film on front and back
- Particularly flat and glued screwed cable outlet with strain relief
- Well known since 20 years
- Already prepared cable gland in the carrier plate

MAXIMUM POWER AT HIGHEST QUALITY

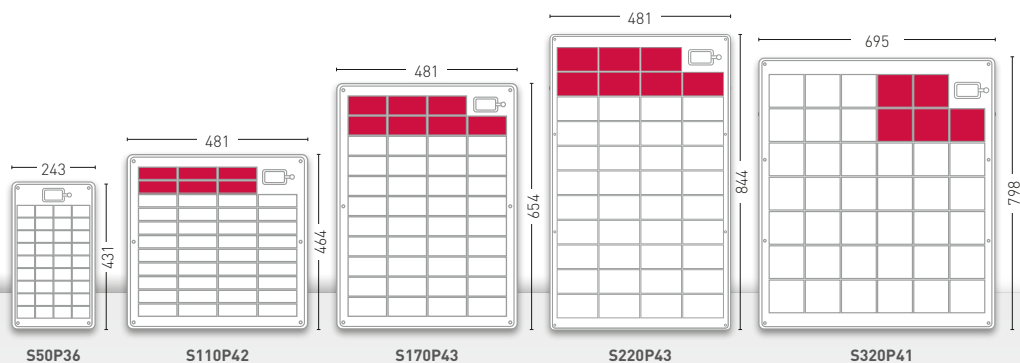
- Extremely high yields through the use of crystalline high performance cells
- Maximum daily yield by additional single cells
- Powerful low-light performance – High yields even under cloudy and partially shaded conditions
- External cell protector with bypass diodes offers protection against cell overheating (Hot-Spots) is included



WE GUARANTEE

- 5 years product warranty*
- Made in Germany
- Unchangeable serial number at the front side

* Full terms of guarantee: www.solara.de

**UP TO 43 HIGH PERFORMANCE CELLS****PERFORMANCE AT STC***

Type	S50P36 Marine	S110P42 Marine	S170P43 Marine	S220P43 Marine	S320P41 Marine
Daily output in summer in Germany (Ø) Wh/d	50	110	170	220	320
Rated output (Pmpp) Wp	12	27	41	55	80
Short-circuit current (Isc) A	0.65	1.29	1.92	2.54	3.84
Open-circuit voltage (Uoc) V	22.72	26.50	27.13	27.13	25.87
Voltage (Umpp) V	19.15	22.34	22.88	22.88	21.81
Current (Impp) A	0.61	1.22	1.81	2.40	3.62

Dimensions and weight

Dimensions (L x B x H) mm	431 x 243 x 3	464 x 481 x 3	654 x 481 x 3	844 x 481 x 3	798 x 695 x 3
Weight kg	0.9	1.7	2.2	2.8	3.7
Cell dimensions mm	52 x 35	104 x 35	104 x 52	104 x 69	104 x 104

Thermal properties

TK Pmpp %/K	-0.45
TK Uoc %/K	-0.36
TK Isc %/K	0.03
NOCT °C	46 ± 2

Other technical data

System voltage	24 V
Reverse current carrying capacity IR	12 A
Measuring accuracy Pmpp at STC	± 5 %
Module thickness	3 mm

Material used

Cell technology	mono and poly crystalline
Front side/back side	extremely resistant protective Nowoflon film on front and back, sealed all along the edge
Cable outlet	Small, flat, robust, sealed, screwed seawaterproof cable outlet
Hotspot protector (external)	attached to the modules S170P43, S220P43, S320P41

Date 05/2016. Errors and omissions excepted. Technical changes reserved.



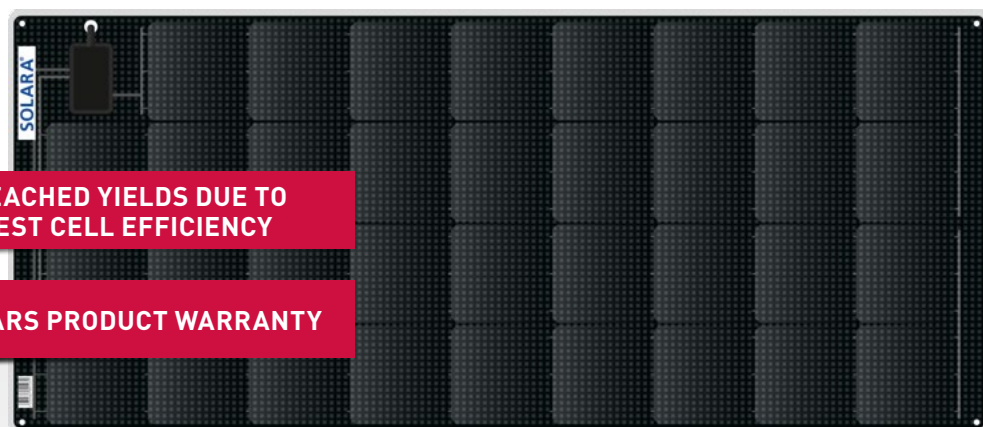
*Performance at STC, Standard Testing Conditions: 1000W/m², AM 1.5, cell temperature 25° C

SOLARA POWER M-SERIES

Highest performance with top quality

**UNREACHED YIELDS DUE TO
HIGHEST CELL EFFICIENCY**

5 YEARS PRODUCT WARRANTY



APPEARANCE AND DESIGN

- Elegant and attractive black design
- Extremely flat shape with aluminum sandwich plate
- Innovative cell connectors allow various installations such as bimini-top
- High stability even to walk on
- Already prepared cable gland in the carrier plate
- Cable gland position ideally positioned for elevating-roofs

MAXIMUM POWER EVEN UNDER EXTREME CONDITIONS

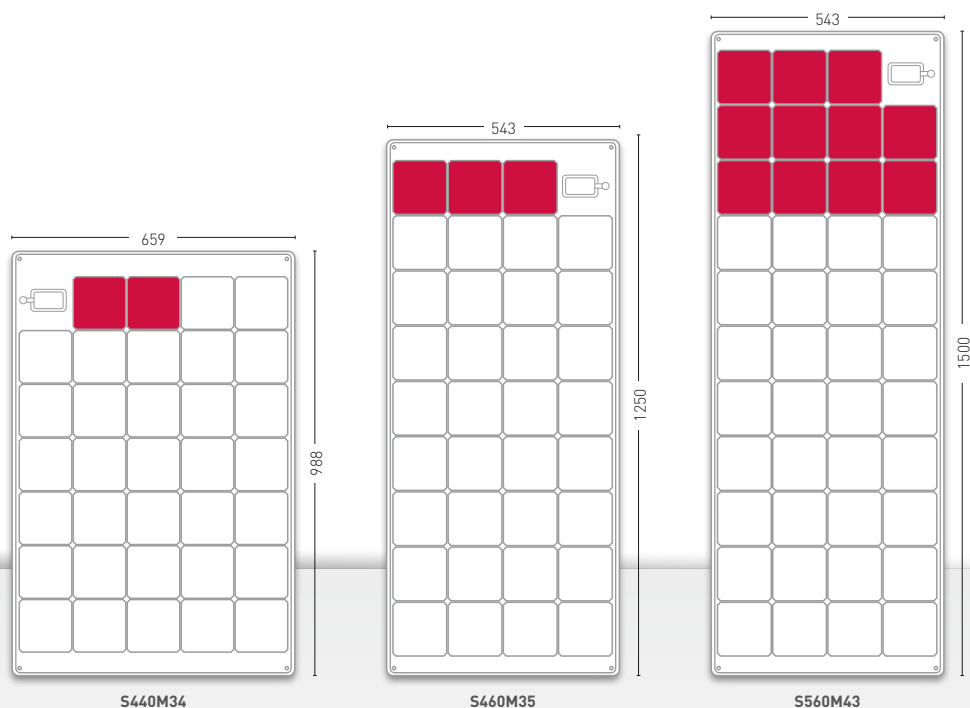
- Highest efficiency ensured by the use of monocrystalline back-contact cells with 22 % efficiency
- Increased tension thanks to additional single cells
- High output voltage due to additional solar cells
- Best low-light behavior – high yields even under diffuse irradiation
- Especially developed for permanent operation at extreme heat as well as high humidity
- Equipped with an UV resistant solar cable, seawater proof cable outlet and mounting holes
- External cell protector with bypass diodes offers protection against cell overheating



WE GUARANTEE

- 5 years product warranty*
- Made in Germany
- Unchangeable serial number at the front side

* Full terms of guarantee: www.solara.de



S440M34

S460M35

S560M43

**MORE CELLS FOR
MAXIMUM OUTPUT****PERFORMANCE AT STC***

Type	S440M34 Marine	S460M35 Marine	S560M43 Marine
Daily output in summer in Germany (Ø) Wh/d	440	460	560
Rated output (Pmpp) Wp	110	115	140
Short-circuit current (Isc) A	6.30	6.30	6.30
Open-circuit voltage (Uoc) V	23.30	24.00	29.50
Voltage (Ump) V	18.90	20.30	24.30
Current (Impp) A	5.80	5.80	5.80

Dimensions and weight

Dimensions (L x B x H) mm	988 x 659 x 3	1250 x 543 x 3	1500 x 543 x 3
Weight kg	4.2	4.4	5.2
Cell dimensions mm	125 x 125	125 x 125	125 x 125

Thermal properties

TK Pmpp %/K	-0.38
TK Uoc %/K	-0.28
TK Isc %/K	0.057
NOCT °C	46 ± 2

Other technical data

System voltage	24 V
Reverse current carrying capacity IR	12 A
Measuring accuracy Pmpp at STC	± 5 %
Module thickness	3 mm

Material used

Cell technology	mono crystalline with backcontact
Front side/back side	extremely resistant protective Nowoflon film on front and back, sealed all along the edge
Cable outlet	Small, flat, robust, sealed, screwed seawaterproof cable outlet
Hotspot protector (external)	attached to all modules

Date 05/2016. Errors and omissions excepted. Technical changes reserved.



*Performance at STC, Standard Testing Conditions: 1000W/m², AM 1.5, cell temperature 25° C

SOLARA CONTROLLER

The optimal way of charging

SOLARA charge controller are charging various battery types always with a controlled charging characteristic.

We guarantee high reliability, latest technologies and easy handling at competitive pricing. The LVD terminal can help to protect the battery from deep discharging.



SR85TL

5 YEARS PRODUCT WARRANTY

Features

- Automatic detection 12/24V
- Solar power 90 - 350 Watt
- Overvoltage protection
- Low voltage disconnection
- Battery type selector
- LED state of charge indicators



SR135TL



SR175TL



SR345TL

Type	Solar panel power [W]	Current [A]	Voltage [V]	Meter
SR85TL	up to 90	5	12 / 24	LED
SR135TL	up to 140	8	12 / 24	LED
SR175TL	up to 180	10	12 / 24	LED
SR345TL	up to 350	20	12 / 24	LED

SOLARA REMOTE METER

The controll station

Good to know, the display shows battery voltage, charging current, load current. Easy connection to SOLARA charge controllers SR85TL - SR345TL.



SR/CMM

Features

- Clear readable display
- Values selected by switch
- For battery voltage, charging current, load current
- 2 m connection cable
- For DIN-rail mounting

Type	Display	for controller type
SR/CMM	Voltage 0-35V, Current 0-25A	SR85TL – SR345TL

MORNINGSTAR CONTROLLER

The professional way of charging

Top quality made by MorningStar with 5 years warranty.

With its large portfolio and the wide power range making MorningStar the first choice.

The features

- Epoxy-sealed printed circuit board
- Microprocessor control
- Automatic 12/24 V detection
- Charges sealed batteries
- Temperature sensor and LVD
- Controlled charging characteristic with PWM
- Serial design, no shunt
- All fuses are electronic
- For large systems with more than 3 kW solar



SunGuard



Sun Saver 20

Type	Solar panel power (W)	Current (A)	Voltage (V)	Meter
SunGuard	bis 75	4,5	12	--
SunSaver 6	bis 110	6	12	LED
SunSaver 10	bis 165	10	12	LED
SunSaver 20	bis 330	20	12	LED

MORNINGSTAR TRISTAR

**HIGH QUALITY WITH
5 YEARS PRODUCT WARRANTY**

For high power professional systems

In larger installations with 60 A solar current and 48 V systems voltage the TriStar is best possible choice.

The features

- Microprocessor controlled
- 12/24/48 V systems possible
- For Gel, AGM and liquid batteries
- PWM charging characteristic
- Full electronic protection
- For systems with 45/60 A solar current
- Solid design and no fans
- Top Quality with 5 years warranty



TriStar 60

Type	Solar panel power (W)	Current (A)	Voltage (V)	Meter
TriStar 45	bis 740	45	12/24/48	*
TriStar 60	bis 990	60	12/24/48	*

* Accessories: LCD display, remote display and battery sensor on request

MORNINGSTAR DUAL-BATTERY CONTROLLER

Charging two batteries

The latest generation of MorningStar controllers for charging two circuits at the same time.



SunSaverDuo

The features

- Flexible charging of two circuits (90% : 10% or 50% : 50%)
- Module power up to 425 Watt
- Max. charging current 25 A
- Top quality with 5 year warranty
- Optional remote LCD display RM-1. RM1 shows battery voltage, charging current, Ampere hours
- Optional temperature sensor

Type	Solar panel power (W)	Current (A)	Voltage (V)	Meter
SunSaverDuo	bis 425	25	12	LCD remote meter
SunSaverDuo Basic	bis 425	25	12	--

MORNINGSTAR MPPT CONTROLLER

Power-charging with MPPT

Extra yields of 10 - 15% per day by MPPT technology.

Best results in systems with higher number of cells in the solar module.



SunSaver MPPT



Remote meter RM-1

The features

- 12/24/48 V systems possible
- Max. PV open circuit voltage 150 V and 600 V
- Full electronic protection
- several communication ports
- 200 days data logger
- Solid design and no fans
- Programmable via MS-View software
- Ethernet connection
- MODBUS protocol
- Build-in or remote meter

Type	Solar panel power (W)	Current (A)	Voltage (V)	Meter
SunSaver MPPT	up to 200/400	15	12/24	--
Remote meter RM-1	Remote meter for SunSaver MPPT			LCD
TriStar 30 MPPT	up to 1600		12-48	*
TriStar 45 MPPT	up to 2400		12-48	*
TriStar 60 MPPT	up to 3200		12-48	*

* Accessories: LCD display, remote display and battery sensor on request

VICTRON MPPT CONTROLLER

Efficient MPPT charging

A quick adjusting maximum power point tracker (MPPT) makes this controller efficient in mobile applications and gives extra yields up to 20%.

The features

- For 12 V and 24 V systems
- Intelligent "BatteyLife" Management
- Epoxy covered electronic board



MPPT 75/15

Type	Solar panel power (W)	Current (A)	Voltage (V)	Meter
MPPT 75/15	up to 200/400	15	12/24	optional
MPPT 100/30	up to 440/880	30	12/24	optional
Remote meter BMV700	for MPPT 75/15 and MPPT 100/30 incl. Shunt 500 A			

FOX DIGITAL DISPLAY

Voltage and current on display

The control panel for your system and battery.

LCD display for universal use in your solar system.

The features

- LCD display
- Shows battery voltage
- Shows current up to xxA
- For flush mounting available
- Flexible in use, connect where you need it



DA20



DA20/E

Type	Voltage (V)	Meter
DA20	8 - 48	LCD
DA20/E	8 - 48	LCD

ADDITIONAL ACCESSORIES AND SOLAR CONTROLLERS

Type	Accessory
EBL connection cable	Connection wire for any solar controller with Schaudt EBL
DC-Connect-C	Connection cable module to controller, 2 x 4,0 mm ² /5 m/MC4
DC-Connect-B	Connection cable controller to battery, 2 x 6mm ² , 1 m
DC-Connect-M	Connection cable module, 4 mm ² , 2 m/pair with plus and minus
MC4 Y-Set	Y-adapter set for parallel connection of two modules, set with plus and minus
Cable 2x2,5	Installation cable for outside use, 2 x 2,5 mm ² , roll with 100 m
Cable 2x4,0	Installation cable for outside use, 2 x 4,0 mm ² , roll with 100 m
SM/cell protector	Hotspot protector for SOLARA M-Series as spare part
KS	Edge protector for Solara M-Series
SLÜ25E	Solar ventilator with stainless steel cover



Schaudt charger



Stainless steel ventilator



Hot-spot-protector

SOLARA ABS MOUNTING SPOILERS

TÜV tested, lightweight and UV-resistant

Solara ABS spoilers in black and white are perfectly made for RV’s, caravans, nuts and cottages. They are mounting solution and wind shield at the same time.

We use only high-quality ABS material that has been specially coated prior to the forming process instead of low-quality injection-molded plastic from questionable sources.

The ABS brackets exactly match the solar panel widths and can also be used for other makes of solar panels. Also available are corner brackets and connector brackets. The brackets are glued onto the vehicle roof with our special ABS adhesive (FIX PACK), the solar panels are connected to the spoilers by using screws.

The features

- Best symbiosis between functionality and optic
- More than 50% lighter than other materials
- ABS plastics with special coating
- UV-resistant
- 100% recyclable
- Screws included
- 5-year warranty

Please note: Always use the special ABS adhesive for installation, such as SOLARA FixPack



HSXX/W



HSV/W



HSE/W

Type	Art.-No.	Max. solar panel width	Pc/set
Mounting spoilers set	HS35/W	350 mm	2
Mounting spoilers set	HS45/W	450 mm	2
Mounting spoilers set	HS55/W	550 mm	2
Mounting spoilers set	HS55/black	550 mm	2
Mounting spoilers set	HS68/W	680 mm	2
Edge spoiler set	HSE/W	all type of solar panels	4
Universal mounting spoiler set	HSV/W	all type of solar panels	2

SPOILER HS55 NOW AVAILABLE IN BLACK COLOUR



HS55/black

SOLARA ABS ROOF GROMMET

5 YEARS PRODUCT WARRANTY

Everlasting waterproof

The roof grommets DD1 and DD2 are made from specially coated, UV-resistant ABS and are available in matching colour.

The broad adhesive seam and long-lasting PG-cable-glands facilitate and guarantee a secure, durable installation.

Easily glued with the special adhesive: a permanently watertight cable feedthrough to the interior.



Type	Art.-No.	No. of inlets
Roof grommet	DD1/W	1 x PG13,5 for 1 cable
Roof grommet	DD2/W	2 x PG13,5 for 2 cable

SOLARA ADHESIVE SET FIX PACK

Proofed and safe bonding

Special adhesive for SOLARA ABS plastic mounting systems, aluminium mounting brackets, SOLARA Marine Series or roof grommets.

The one component adhesive contained in the glue set is a pure MS-polymer, isocyanate-free and thus poison-free!

The features

- Storable for one year
- Ideally suitable for gluing plastic such as ABS on to coated surfaces
- Component of the SOLARA complete sets

Scope of delivery: cartridge 290 ml, primer (Dekavator) cleaning cloth, sanding pad



SOLARA ALUMINUM BRACKETS

For individual installation

The features

- Sturdy aluminium brackets with a large surface area
- Ideal for caravans, RVs, garden sheds and holiday homes
- Mounting height of the panels is adjustable
- All screws included
- Brackets can be screwed onto the roof or glued by using the SOLARA FIX PACK.

Type	Art.-No.	Max. module length	No. of brackets
Brackets set	HSP	up to 1250 mm	4 brackets
Brackets set	HSP400	up to 1250 mm	6 brackets



SOLARA®

module. komponenten. systeme



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