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TRADING**

**SOLARA®**  
module. komponenten. systeme



**SOLAR POWER  
WHERE I NEED IT**



For travellers and  
stand alone systems



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## DCsolar

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## DCsolar COMPLETE SETS

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## DCsolar PANELS

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SOLARA®

**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 <sub>s</sub>   | 12 V                  | Systemspannung            |
| nominal power STC                    | P <sub>nom</sub> | 90 Wp                 | Nennleistung              |
| power tolerance                      | ±P               | +1, -5%               | Leistungsabweichung       |
| nominal voltage                      | U <sub>nom</sub> | 18,00 V               | Spannung bei Nennleistung |
| open circuit voltage                 | U <sub>oc</sub>  | 21,90 V               | Leerlaufspannung          |
| nominal current                      | I <sub>sc</sub>  | 5,00 A                | Strom bei Nennleistung    |
| short circuit current                | I <sub>sc</sub>  | 5,45 A                | Maximalstrom              |
| daily performance up to order number | E <sub>h</sub>   | 360 Wh/m <sup>2</sup> | Ertrag                    |
| order number                         |                  | 611090101             | Artikel                   |
| CE                                   |                  |                       |                           |

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®**  
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## Solara – always a good choice

### SOLARA – QUALITY SINCE TWO DECADES

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

## TIPPS FOR SYSTEM LAYOUT

**SOLARA**<sup>®</sup>  
module. komponenten. systeme

# Independent power supply

## SYSTEMS FOR EVERY NEED

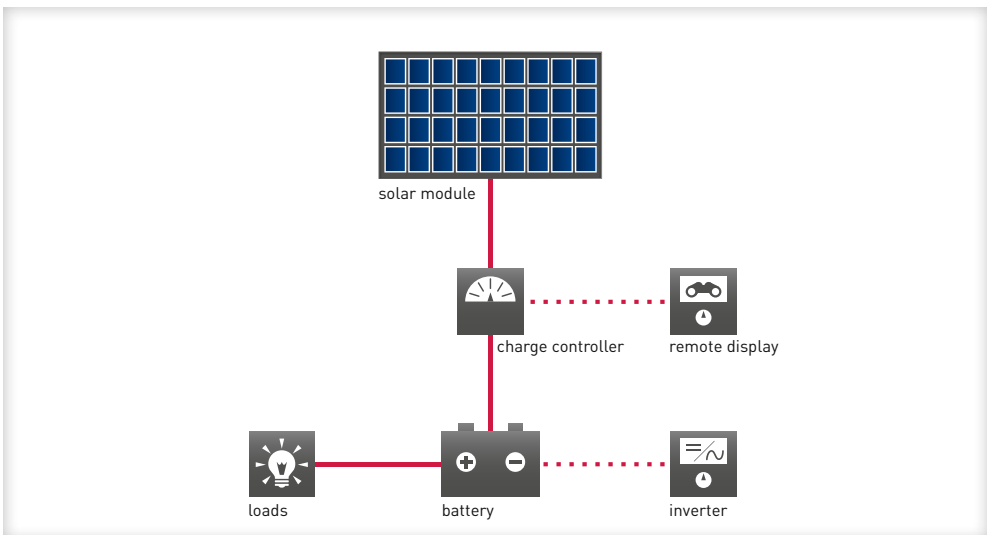
A reliable power supply, aligned to the needs, is the most important criteria. Doesn't matter if it is a RV, Caravan or boat, alpine hut or measurement station, in many cases a small solar system can secure an independent power supply – even without complicated inverter technology.

On the following pages you will find various complete solutions, for nearly all kind of demand. Advantage SOLARA is here that all sets can be assembled quickly, due to well-matched components.

## 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



## HOW TO FIND THE RIGHT SYSTEM SIZE

To find out how much solar power is needed, take a closer look to the appliances and the energy consumption you have. The total energy consumption is calculated from the number of appliances, the nominal power and the daily usages duration. Additionally the number of occupants and the period of the year you are traveling influences the energy consumption.

| 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              | 5 W           | 5 Hours        | 50 Wh/Day   |
| Freezer            | 50 W          | 6 Hours        | 300Wh/Day   |
| Mobile phone       | 5W            | 2 Hours        | 10Wh/Day    |
| Tablet computer    | 15W           | 2 Hours        | 30Wh/Day    |
| Chartplotter       | 15W           | 6 Hours        | 90Wh/Day    |
| Autopilot          | 40W           | 6 Hours        | 240Wh/Day   |
| Watermaker         | 110W          | 4 Hours        | 440Wh/Day   |
| Instrument display | 10W           | 6 Hours        | 60Wh/Day    |

Do the above calculation for your own and add the consumption of each appliance you have. The result is your daily needed amount of energy. According to your travel behaviors you should compensate more or less this amount of energy with your solar system.

## HOW TO FIND THE RIGHT SYSTEM SIZE

To find out which of our systems is the best, take a closer look at your usage conditions first. The total energy consumption is influenced by the number of users, travel behaviors, travel time and the vehicle size.

- Just to extend the capacity of your battery for a little bit longer stay, it is enough to compensate parts of the consumption with a solar system.
- If you travel mainly during summer your solar systems will generate very good yields and can be sized smaller.
- In smaller vehicles with just one or two persons the consumption is mostly lower and can be compensated with a smaller solar system.



### Solar system up to 100W

- Ideal for Camper vans and small RVs
- Mainly weekend traveling during summer time
- Loads: Lights, pump, radio, small compressor fridge
- Recommended products: Power Mobil, Power Mobil Plus, modules from the S-Series or M-Series

### Solar system with 100 Wp (400 Wh/d)

- Ideal for small and medium-size RVs
- Usage period is mainly April to September
- Loads: lights, pump, radio, TV/SAT
- Recommended products: SOLARA Packs, modules from the S-Series

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

- Ideal for medium and large-sized RVs
- Usage period can be all around the year
- Loads: lights, pump, radio, TV/SAT, compressor fridge
- Recommended products: SOLARA Packs, modules from the S-Series

### Solar system larger 200 Wp (→800 Wh/d)

- Ideal for medium and large-sized RVs
- Usage period can be all around the year
- Loads: lights, pump, radio, TV/SAT, compressor fridge
- Recommended products: SOLARA Packs, modules from the S-Series



### Solar system smaller 25W

- All kind of boats
- Trickle charging to keep the battery alive
- Usage period can be all year long
- Recommended products: SOLARA M-Series

### Solar system with 30-80W

- Small Sailing boats, Power boats
- Increasing the battery capacity
- Loads: Compressor fridge, Radio, navigation, lights
- Usage period: Summer time, weekend trips, 2-3 days in a bay
- Recommended products: SOLARA M-Series, Power Mobil

### Solar system with 80-150W

- Sailing boats, Catamarans, Charter boats
- Close to full energy compensation
- Loads: Compressor fridge, Radio, navigation, lights, communication, tablet computer
- Used for long distance trips and trips with short/no harbor time
- Recommended products: SOLARA M-Series, Power M-Series, Power Mobil

### Solar system with 150W and more

- Large Sailing boats, Catamarans, Charter boats
- Full energy compensation possible
- Loads: Compressor fridge, Radio, navigation, lights, communication, tablet computer
- Used for Long distance trips, Bluewater sailing and trips with short/no harbor time
- Recommended products: SOLARA M-Series, Power M-Series, S-Series



## SOLARA COMPLETE-SET POWER PACK

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# Maximum power on smallest area

**NEW: MORE POWER**



## ALL IN BLACK - HIGHEST POWER IN ELEGANT AND ESTETIC DESIGN

### SCOPE OF DELIVERY

- SOLARA panels from the Power-S-Series with black-colored frame
- MPPT charge controller, Victron 15 A/30 A or Solara 16A
- 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
- Detailed mounting instruction
- 5 years product warranty on all components
- Remote display or Bluetooth connection optional available (only with Victron chargers)
- Everything in one box

### SOLARA POWER PACKS

| Type                            | POP01           | POP02           | POP03              | POP04           |
|---------------------------------|-----------------|-----------------|--------------------|-----------------|
| Power (W)                       | 120             | 150             | 240                | 300             |
| Daily yield (Wh)                | 480             | 625             | 960                | 1250            |
| Solar panels (Type)             | S480M36 Ultra   | S625M44 Ultra   | S480M36 Ultra      | S625M44 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    | Victron 15 A    | Solara SR280E MPPT | Victron 30 A    |

**5 YEARS PRODUCT WARRANTY**

**CONSULTANOS SIN COMPROMISO. TENEMOS LA MEJOR  
SOLUCION PARA TI**

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## SOLARA COMPLETE-SET PREMIUM PACK

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# Perfectly charged under all conditions


**BEST PRICE-  
PERFORMANCE RATIO**

## LOAD AND ENGINE BATTERY CHARGED AT THE SAME TIME

### SCOPE OF DELIVERY

- SOLARA panels from the S-Series with silver-colored frame
- MorningStar 2-battery-circuit charger with 25A
- 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
- Remote display optional available
- Everything in one box

### SOLARA PREMIUM PACKS

| Type                            | PRP01                 | PRP02                 | PRP03                 | PRP04                 |
|---------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Power (W)                       | 110                   | 160                   | 220                   | 320                   |
| Daily yield (Wh)                | 440                   | 640                   | 880                   | 1280                  |
| Solar panel (Type)              | S445M36 Ultra         | S640P36 Ultra         | S445M36 Ultra         | S640P36 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                         | MorningStar Duo, 25 A | MorningStar Duo, 25 A | MorningStar Duo, 25 A | MorningStar Duo, 25 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 COMPLETE-SET PROFI PACK

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# For vehicles with Schaudt-EBL

**IDEAL FOR RVs WITH  
SCHAUDT EBL-BLOC**



## MATCHES PERFECTLY WITH SCHAUDT ELECTRICAL SYSTEM

### SCOPE OF DELIVERY

- SOLARA panels, S-Series with silver-colored frame
- Schaudt EBL charge controllers, 18A, 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
- Everything in one box

### SOLARA PROFI PACKS

| Type                            | PP01            | PP02            | PP03            |
|---------------------------------|-----------------|-----------------|-----------------|
| Power (W)                       | 110             | 160             | 220             |
| Daily yield (Wh)                | 440             | 640             | 880             |
| Solar panel (Type)              | S445M36 Ultra   | S640P36 Ultra   | S445M36 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        |
| Charger                         | Schaudt LR12/18 | Schaudt LR12/18 | Schaudt LR12/18 |

**5 YEARS PRODUCT WARRANTY**

## SOLARA COMPLETE-SET STARTER PACK

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# Starter set with 16A charge controller


**BESTSELLER!**

## YOUR START WITH PERFORMANCE BY SOLARA

### SCOPE OF DELIVERY

- SOLARA panel, S-Series with silver-colored frame
- SOLARA charge controller, 16A, 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
- Detailed mounting instruction
- 5 years product warranty on all components
- Remote display optional available
- Everything in one box

### SOLARA STARTER PACKS

| Type                            | SP01            | SP02            |
|---------------------------------|-----------------|-----------------|
| Power (W)                       | 110             | 160             |
| Daily yield (Wh)                | 440             | 640             |
| Solar panel (Type)              | S445M36 Ultra   | S640M36 Ultra   |
| No. of cells (pc)               | 36              | 36              |
| No. of solar panel (pc)         | 1               | 1               |
| Solar panel size (mm)           | 1237 x 557 x 40 | 1500 x 680 x 40 |
| Total length incl. spoiler (mm) | 1387            | 1650            |
| Charger                         | Solara SR280E   | Solara SR280E   |

**5 YEARS PRODUCT WARRANTY**

### WE GUARANTEE

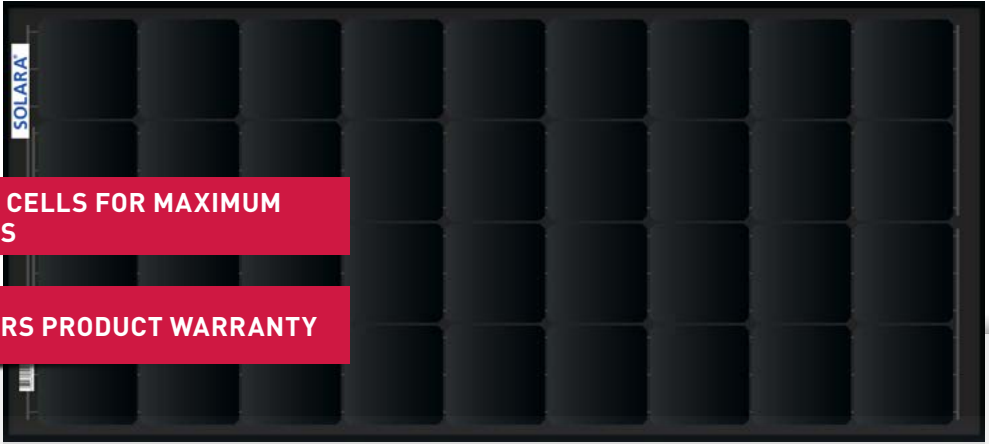
- Premium quality "Made in Germany"
- 5 years product warranty for all components
- Security by TÜV testings
- Adapted charging technology
- Fair price calculation
- Product diversity with solar panels and controllers


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## SOLARA POWER S-SERIES

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## Highest yields guaranteed



**MORE CELLS FOR MAXIMUM YIELDS**

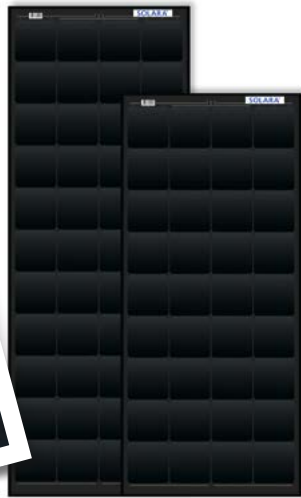
**5 YEARS PRODUCT WARRANTY**

### 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

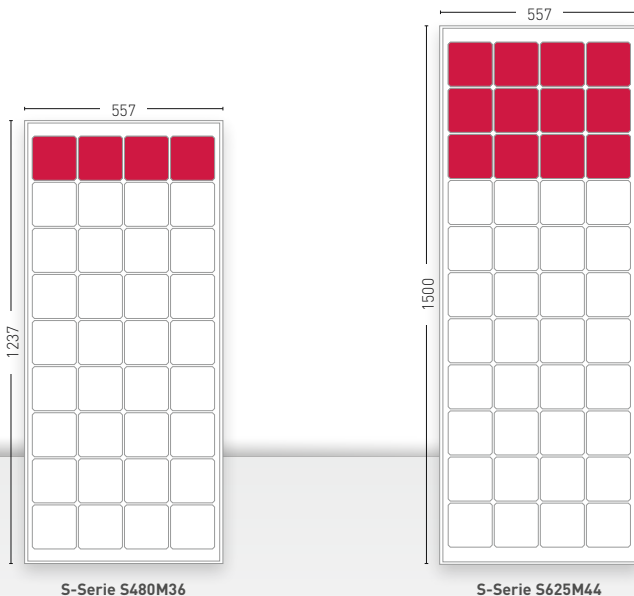


### WE GUARANTEE

- 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

**SOLUCIONES A TU MEDIDA!!!**

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**120 W · 150 W**

**PERFORMANCE AT STC\***

| Type                                       | S480M36 Ultra | S625M44 Ultra |
|--------------------------------------------|---------------|---------------|
| Daily output in summer in Germany (Ø) Wh/d | 480           | 625           |
| Rated output (Pmpp) Wp                     | 120           | 150           |
| Short-circuit current (Isc) A              | 6.87          | 6.40          |
| Open-circuit voltage (Uoc) V               | 24.68         | 30.36         |
| Voltage (Umpp) V                           | 19.08         | 25.96         |
| Current (Impp) A                           | 6.56          | 6.00          |

**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**

|                                      |                |
|--------------------------------------|----------------|
| Reverse current carrying capacity IR | 12 A           |
| Measuring accuracy Pmpp at STC       | ± 5 %          |
| Glass thickness                      | 3.2 mm         |
| Operating temperature range          | -40°C to +85°C |

**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 03/2017. Errors and omissions excepted. Technical changes reserved.

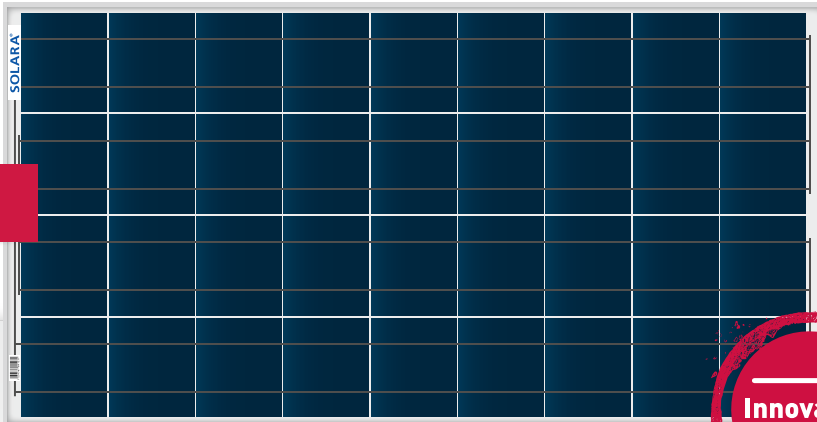


\*Performance at STC, Standard Testing Conditions: 1000W/m², AM 1.5, cell temperature 25° C

## SOLARA S-SERIES VISION

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# Unbreakable with glass/glass technology



**WALKABLE**

**Innovation**

## TOP QUALITY FOR PROFESSIONAL MOBILE APPLICATIONS

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

## SECURE

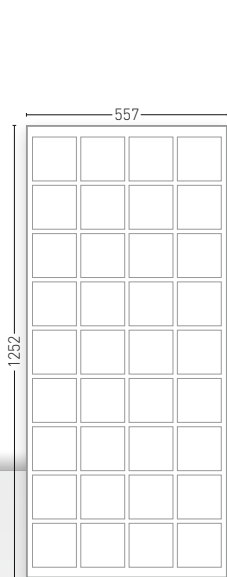
- Frame with dewatering holes to avoid frost damage
- Large, waterproof junction box with connection cable and MC4 compatible plugs
- Ammonia resistant
- Saltwater resistant
- Hail resistant



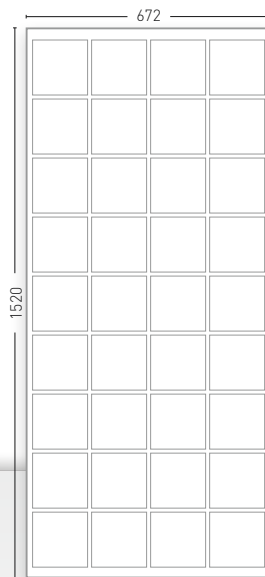
## WE GUARANTEE

- 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

**INDUS  
TRADING**



S450M36 Vision



S600P36 Vision

110 W · 150 W

**PERFORMANCE AT STC\***

| Type                                       | S450M36 Vision | S600P36 Vision |
|--------------------------------------------|----------------|----------------|
| Daily output in summer in Germany (Ø) Wh/d | 440            | 600            |
| Rated output (Pmpp) Wp                     | 110            | 150            |
| Short-circuit current (Isc) A              | 6.50           | 8.83           |
| Open-circuit voltage (Uoc) V               | 21.70          | 22.40          |
| Voltage (Umpp) V                           | 17.70          | 17.90          |
| Current (Impp) A                           | 6.20           | 8.39           |

**Dimensions and weight**

|                           |                 |                 |
|---------------------------|-----------------|-----------------|
| Dimensions (L x B x H) mm | 1252 x 557 x 40 | 1520 x 672 x 40 |
| Weight kg                 | 9.4             | 15.0            |
| Cell dimensions mm        | 125 x 125       | 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**

|                                      |                |
|--------------------------------------|----------------|
| Reverse current carrying capacity IR | 12 A           |
| Measuring accuracy Pmpp at STC       | ± 5 %          |
| Glass thickness (Vision)             | 2 x 2 mm       |
| Operating temperature range          | -40°C to +85°C |

**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 03/2017. Errors and omissions excepted. Technical changes reserved.



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

## SOLARA S-SERIES

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## Robust and reliable

**5 YEARS PRODUCT WARRANTY**

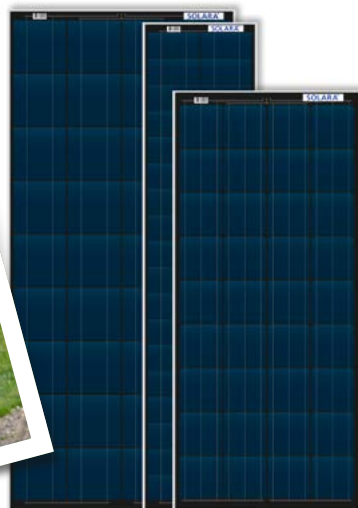


### TOP QUALITY FOR PROFESSIONAL MOBILE APPLICATIONS

- Solar modules with 36 high-performance solar cells
- Sturdy, seawater-resistant aluminium frame

### SECURE

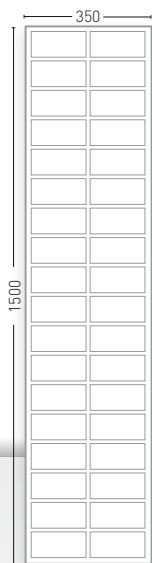
- Frame with dewatering holes to avoid frost damage
- Large, waterproof junction box with connection cable and MC4 compatible plugs
- Weather and water proof foil provides highest life expectancy even under extreme climatic conditions
- Ammonia resistant
- Saltwater resistant
- Hail resistant



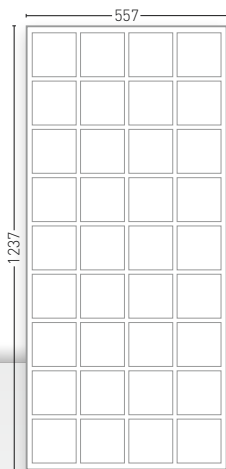
### WE GUARANTEE

- 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

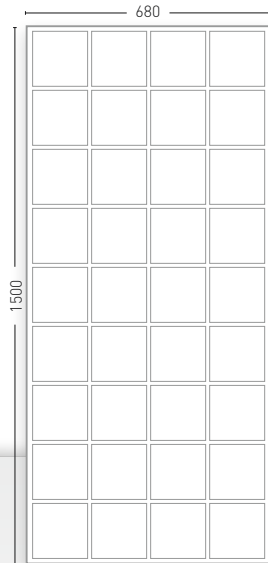




S325M36



S445M36



S640P36

80 W · 110 W · 160 W

PERFORMANCE AT STC\*

| Type                                       | S325M36 | S445M36 | S640P36 |
|--------------------------------------------|---------|---------|---------|
| Daily output in summer in Germany (Ø) Wh/d | 325     | 445     | 640     |
| Rated output (Pmpp) Wp                     | 80      | 110     | 160     |
| Short-circuit current (Isc) A              | 4.40    | 6.50    | 8.93    |
| Open-circuit voltage (Uoc) V               | 22.70   | 21.70   | 22.97   |
| Voltage (Umpp) V                           | 19.20   | 17.70   | 19.30   |
| Current (Impp) A                           | 4.20    | 6.30    | 8.29    |

Dimensions and weight

|                           |                 |                 |                 |
|---------------------------|-----------------|-----------------|-----------------|
| Dimensions (L x B x H) mm | 1500 x 350 x 40 | 1237 x 557 x 40 | 1500 x 680 x 40 |
| Weight kg                 | 7.5             | 7.9             | 12.1            |
| Cell dimensions mm        | 156 x 78        | 125 x 125       | 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

|                                      |                |
|--------------------------------------|----------------|
| Reverse current carrying capacity IR | 12 A           |
| Measuring accuracy Pmpp at STC       | ± 5 %          |
| Glass thickness                      | 3.2 mm         |
| Operating temperature range          | -40°C to +85°C |

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 03/2017. Errors and omissions excepted. Technicial changes reserved.



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

## SOLARA POWER M-SERIES

**SOLARA®**  
module. komponenten. systeme

# Highest performance with top quality



**HIGH EFFICIENT SOLAR CELLS**

**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

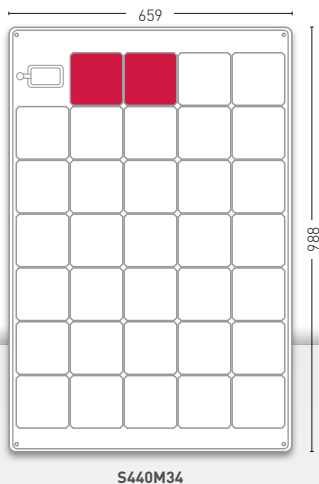


### WE GUARANTEE

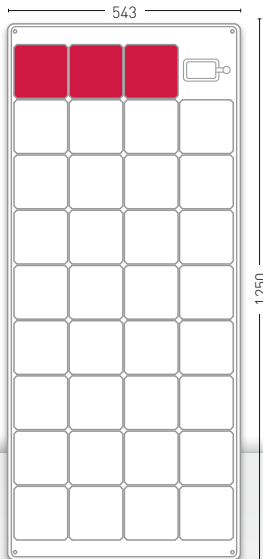
- 5 years product warranty\*
- Made in Germany
- Unchangeable serial number at the front side

\* Full terms of guarantee: [www.solara.eu](http://www.solara.eu)

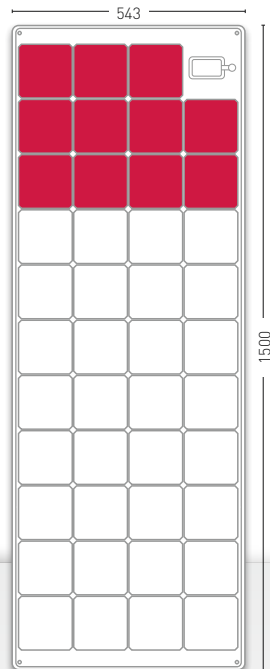
**SOLARA**<sup>®</sup>  
module. komponenten. systeme



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 (Umpp) 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 | 990 x 660 x 4 | 1250 x 545 x 4 | 1510 x 545 x 4 |
| 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**

|                                      |                |
|--------------------------------------|----------------|
| Reverse current carrying capacity IR | 12 A           |
| Measuring accuracy Pmpp at STC       | ± 5 %          |
| Module thickness                     | 3 mm           |
| Operating temperature range          | -40°C to +85°C |

**Material used**

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

Date 03/2017. 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 BEST PERFORMANCE**

**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

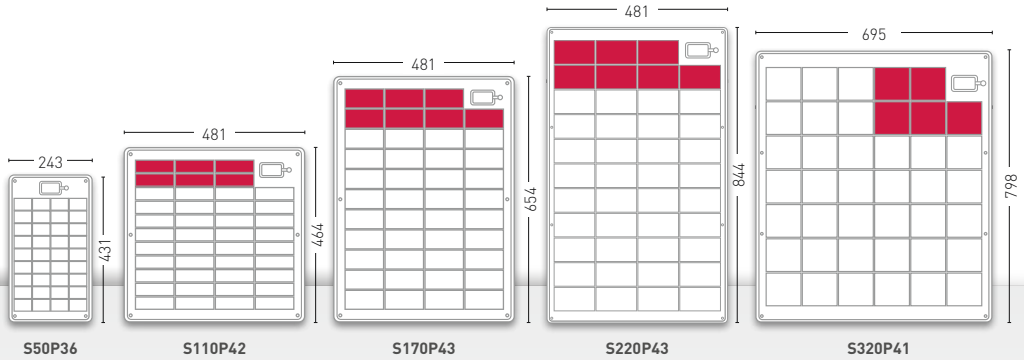
- Extremely high yields through the use of crystalline high performance cells
- Maximum daily yield by additional single cells
- Powerful low-light performance – High yields even under cloudy and partially shaded conditions
- External cell protector with bypass diodes offers protection against cell overheating (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.eu](http://www.solara.eu)



**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**

|                                      |                |
|--------------------------------------|----------------|
| Reverse current carrying capacity IR | 12 A           |
| Measuring accuracy Pmpp at STC       | ± 5 %          |
| Module thickness                     | 3 mm           |
| Operating temperature range          | -40°C to +85°C |

**Material used**

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

Date 03/2017. Errors and omissions excepted. Technical changes reserved.



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

## SOLARA POWER MOBILE

**SOLARA®**  
module. komponenten. systeme

# Mobile and flexible – everywhere



### APPEARANCE AND DESIGN

- Flexible in use due to textile bordure
- Zipper-, Velcro or Eyelets can be added afterwards for Bimini/Sprayhood installation
- Foldable and space saving
- Efficient battery charging even when RV stands shaded
- No costs for mounting material, fully mobile use

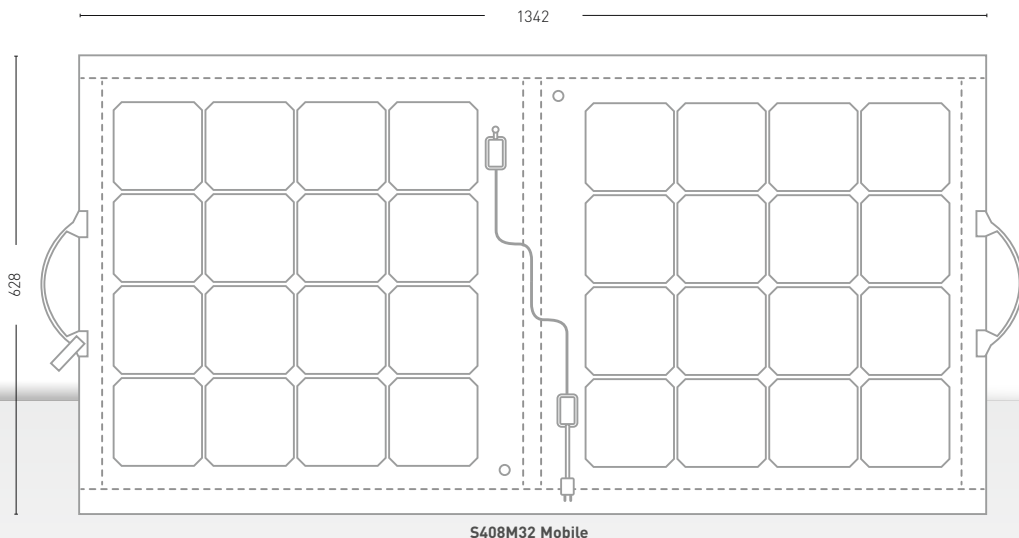
### MAXIMUM POWER AT HIGHEST QUALITY

- Outstanding cell-efficiency of 22% by the used back-contact-cells
- Best low-light behaviour – high yield in all seasons
- UV-resistant cable outlet and connection wire



### WE GUARANTEE

- High yields even under diffuse irradiation
- Durable even under tough conditions
- 5 years product warranty\*
- Made in Germany



S408M32 Mobile

102 W

### PERFORMANCE AT STC\*

| Type                                          | S408M32 Mobile |
|-----------------------------------------------|----------------|
| Daily output in summer<br>in Germany (Ø) Wh/d | 408            |
| Rated output (Pmpp) Wp                        | 102            |
| Short-circuit current (Isc) A                 | 6.30           |
| Open-circuit voltage (Uoc) V                  | 21.90          |
| Voltage (Umpp) V                              | 17.80          |
| Current (Impp) A                              | 5.80           |

### Dimensions and weight

|                                  |                |
|----------------------------------|----------------|
| Dimensions open (L x B x H) mm   | 1342 x 628 x 6 |
| Dimensions closed (L x B x H) mm | 685 x 628 x 25 |
| Weight kg                        | 4.9            |
| Cell dimensions mm               | 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

|                                      |                |
|--------------------------------------|----------------|
| Reverse current carrying capacity IR | 12 A           |
| Measuring accuracy Pmpp at STC       | ± 5 %          |
| Module thickness                     | 6 mm           |
| Operating temperature range          | -40°C to +85°C |

### Material used

|                      |                                                                    |
|----------------------|--------------------------------------------------------------------|
| Cell technology      | mono crystalline with backcontact                                  |
| Front side/back side | Nowoflon film on front and back,<br>sealed all along the edge      |
| Cable outlet         | Small, flat, robust, sealed,<br>screwed seawaterproof cable outlet |

Date 03/2017. Errors and omissions excepted. Technical changes reserved.

### Products included

Cable 5 m pre-mounted with Sure Seal plug  
(for connection with cable charger FOX)

### Optionally available

Cable charger Fox 062, 6 A  
Extension cable with Sure Seal plugs, 10 m  
Eyelets set

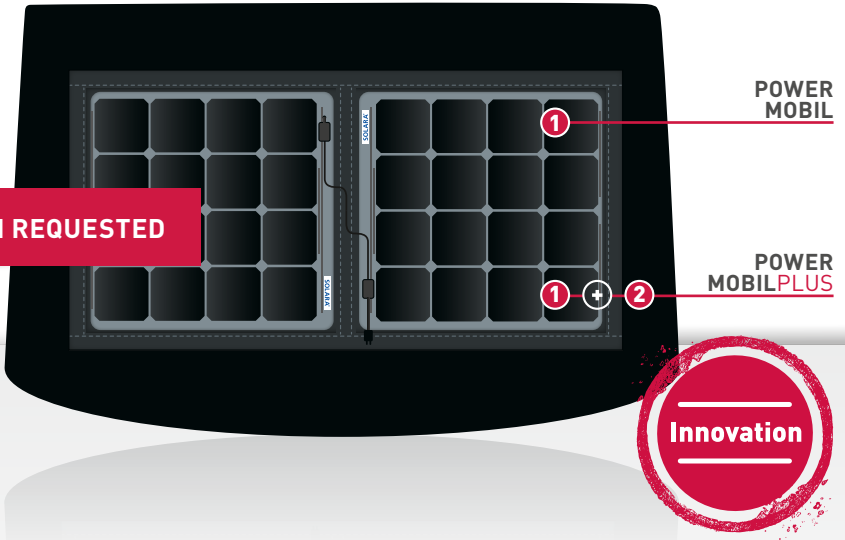


\*Performance at STC, Standard Testing Conditions: 1000W/m<sup>2</sup>, AM 1.5, cell temperature 25° C

SOLARA POWER MOBILEPLUS

**SOLARA®**  
 module. komponenten. systeme

## Innovative charging



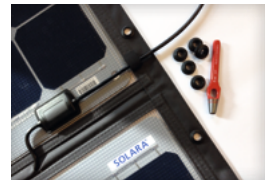
### APPEARANCE AND DESIGN

#### Windscreen blinds

- High resistant textile with integrated waterstop and UV-protection
- Fully opaque and darkening
- Extremely high isolating behaviour due to integrated isolation foam
- Very quick installation due to innovative magnetic fixation
- Easy to clean and to store, foldable
- Available for VW T5/T6, MB Vito, & Sprinter, Fiat Ducato

#### Solar panel

- Integrated into the windscreen blinds, but also separately useable
- Best low-light behaviour with 22% cell efficiency
- UV-resistant cable outlet and connection wire
- Integrated theft protection



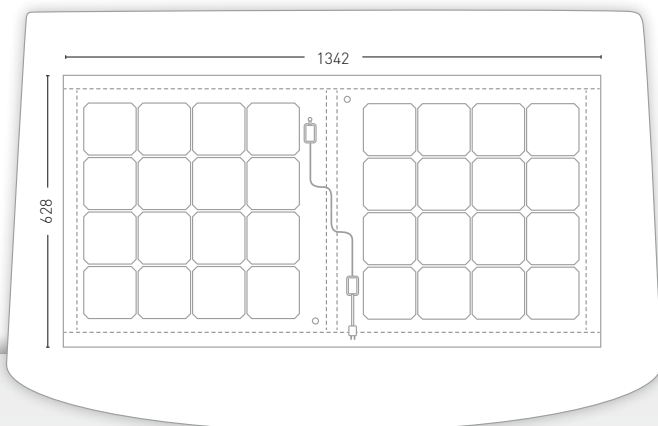
Charger FOX-062

**INDUS**  
 TRADING

### WE GUARANTEE

- 5 year product warranty
- Made in Germany
- Unchangeable serial number





S409M32 Mobile plus

FOR MANY DIFFERENT RVs AVAILABLE

PERFORMANCE AT STC\*

| Type                                       | S409M32 Mobile plus |
|--------------------------------------------|---------------------|
| Daily output in summer in Germany (Ø) Wh/d | 408                 |
| Rated output (Pmpp) Wp                     | 102                 |
| Short-circuit current (Isc) A              | 6.30                |
| Open-circuit voltage (Uoc) V               | 21.90               |
| Voltage (Umpp) V                           | 17.80               |
| Current (Impp) A                           | 5.80                |

Dimensions and weight

|                                         |                  |
|-----------------------------------------|------------------|
| Dimensions module open (L x B x H) mm   | 1342 x 628 x 6   |
| Dimensions module closed (L x B x H) mm | 685 x 628 x 25   |
| Dimensions front module (L x B x H) mm  | 1775 x 1020 x 16 |
| Weight kg                               | 4,9/6,4          |
| Cell dimensions mm                      | 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

|                                      |                |
|--------------------------------------|----------------|
| Reverse current carrying capacity IR | 12 A           |
| Measuring accuracy Pmpp at STC       | ± 5 %          |
| Module thickness                     | 6 mm           |
| Operating temperature range          | -40°C to +85°C |

Material used

|                      |                                                                 |
|----------------------|-----------------------------------------------------------------|
| Cell technology      | mono crystalline with backcontact                               |
| Front side/back side | Nowofton film on front and back, sealed all along the edge      |
| Cable outlet         | Small, flat, robust, sealed, screwed seawaterproof cable outlet |

Scope of supply

|                                                                                   |
|-----------------------------------------------------------------------------------|
| Cable 5 m pre-mounted with Sure Seal plug (for connection with cable charger Fox) |
|-----------------------------------------------------------------------------------|

Optionally available

|                                          |
|------------------------------------------|
| Cable charger Fox 062, 6 A               |
| Cable charger with Sure Seal plugs, 10 m |
| Eyelets set                              |

Date 03/2017. Errors and omissions excepted. Technical changes reserved.



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

## SOLARA CONTROLLER

**SOLARA®**  
module. komponenten. systeme

# The smart way of charging

### SOLARA charge controller for all types of batteries.

We guarantee high reliability, latest technologies and easy handling at competitive pricing. The PWM charging characteristic guarantees efficient charging. All Solara charge controllers are high efficient serial controllers (no shunt). The LVD terminal can help to protect the battery from deep discharging. A large LCD Display shows the current system status and values from the data logger. The SR350DUO additionally offer the possibility to charge two independent battery circuits.



#### Features

- Automatic 12/24V detection
- Solar power <90 up to 350W
- Electronic protection against overcharging, reverse polarity, overvoltage
- Low voltage disconnect
- Battery type selector
- Ready for Lithium-batteries (in accordance with manufacturer)
- LED indicators for state of charge
- Temperature compensated charging
- Low self-consumption <4mA
- USB port for charging (at SR180/SR350LCD)
- Charging two battery circuits (SR350DUO)
- IP65 metal housing (SR280E)

**5 YEARS PRODUCT WARRANTY**

| Type                                                     | Solar panel power (W) | Current (A) | Voltage (V) | Meter |
|----------------------------------------------------------|-----------------------|-------------|-------------|-------|
| SR85TL                                                   | 90/180                | 5           | 12 / 24     | LED   |
| SR135TL                                                  | 140/280               | 8           | 12 / 24     | LED   |
| SR175TL                                                  | 180/360               | 10          | 12 / 24     | LED   |
| SR345TL                                                  | 350/700               | 20          | 12 / 24     | LED   |
| Remote Meter for SR85/135/175/345TL für Voltage, Current |                       |             |             |       |
| SR280E                                                   | 280                   | 16          | 12          | LED   |
| SR180LCD                                                 | 180/360               | 10          | 12 / 24     | LCD   |
| SR350LCD                                                 | 350/700               | 20          | 12 / 24     | LCD   |
| SR350DUO                                                 | 350/700               | 20          | 12 / 24     | LCD   |

## SOLARA MPPT-CONTROLLER

Charge controllers with MPPT technology extend the range of useable solar modules enormous. Due to the possibility to work with high input voltages enables this controller to be very efficient and create high yields. Even under frequent changing irradiation conditions MPPT technology generates more energy.



#### Features

- Ultra fast Maximum Power Point Tracking (MPPT)
- 12/24V automatic detection
- Solar-Input voltage up to 85V
- Maximum charging current 16A
- Robust metal housing in IP68
- Fully electronic protection
- Low self-consumption

| Type        | Solar panel power (W) | Current (A) | Voltage (V) | Meter |
|-------------|-----------------------|-------------|-------------|-------|
| SR280E MPPT | 250/500               | 16          | 12 / 24     | LED   |

## MORNINGSTAR CONTROLLER

**SOLARA®**  
module. komponenten. systeme

# The professional way of charging

Top quality made by MorningStar with 5 years warranty.

Highest efficiency, robust design, a wide power range – that is what MorningStar stands for.

### Features

- Epoxy-sealed printed circuit board
- Charges sealed and liquid batteries
- Temperature sensor and LVD
- Controlled charging characteristic with PWM
- Serial design, no shunt
- All fuses are electronic
- Low self consumption <8mA
- Top quality with 5 years warranty



SunGuard



Sun Saver 20

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

## MORNINGSTAR TRISTAR

**HIGH QUALITY WITH  
5 YEARS PRODUCT WARRANTY**

# For high power systems

In larger installations up to 60A solar current and 48V systems voltage the TriStar is best possible choice. Robust design, no fans for cooling and several communication option are key facts for professional use.

### The features

- automatic voltage detection
- Adjustable for all types of batteries
- PWM charging characteristic
- Ready for Lithium-batteries (in accordance with manufacturer)
- Full electronic protection
- Solid design and no fans
- Integrated datalogger for 256 days
- Low self consumption <20mA
- Top Quality with 5 years warranty
- Programmable for customs settings
- Multi-lingual display



TriStar 60

| Type        | Solar panel power (W) | Current (A) | Voltage (V) | Meter      |
|-------------|-----------------------|-------------|-------------|------------|
| TriStar 45  | 740/1480/2960         | 45          | 12/24/48    | optional   |
| TriStar 60  | 990/1980/3960         | 60          | 12/24/48    | optional   |
| ProStar 15  | 250/500               | 15          | 12/24       | *          |
| ProStar 15M | 250/500               | 15          | 12/24       | integrated |
| ProStar 30  | 500/1000              | 30          | 12/24       | *          |
| ProStar 30M | 500/1000              | 30          | 12/24       | integrated |

More accessories, displays, communication options, sensors available on request

## MORNINGSTAR DUAL-BATTERY CONTROLLER

# Charging two batteries

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



SunSaverDuo

### 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
- Ready for Lithium-batteries (in accordance with manufacturer)
- Low self consumption <10mA

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

**LITHIUM-READY**

## 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.



ProStar MPPT

### Features

- 12/24/48V automatic detection
- Max. PV open circuit voltage 75/150V
- Full electronic protection
- several communication ports
- 30/200 day data logger
- Solid design and no fans
- Programmable via MS-View software
- Ethernet connection
- MODBUS protocol (ProStar & TriStar)
- Build-in or remote meter
- Lithium Ready (in accordance with manufacturer)
- Low self consumption 30mA

| Type              | Solar panel power (W)          | Current (A) | Voltage (V) | Meter    |
|-------------------|--------------------------------|-------------|-------------|----------|
| SunSaver MPPT     | 200/400                        | 15          | 12/24       | --       |
| Remote meter RM-1 | Remote meter for SunSaver MPPT |             |             | LCD      |
| ProStar 25 MPPT   | 350/700                        | 25          | 12/24       | --       |
| ProStar 25M MPPT  | 350/700                        | 25          | 12/24       | LCD      |
| ProStar 40 MPPT   | 550/1100                       | 40          | 12/24       | --       |
| ProStar 40M MPPT  | 550/1100                       | 40          | 12/24       | LCD      |
| TriStar 30 MPPT   | 400/800/1600                   | 30          | 12/24/48    | optional |
| TriStar 45 MPPT   | 600/1200/2400                  | 45          | 12/24/48    | optional |
| TriStar 60 MPPT   | 800/1600/ 3200                 | 60          | 12/24/48    | optional |

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

## VICTRON MPPT CONTROLLER

## Efficient MPPT charging

## Features

- 12/24V automatic detection
- Fast MPPT regulation
- Robust design, metal housing and epoxy covered electronic board
- Low self consumption 10mA
- Ready for Lithium-batteries (Victron LiFePo4 batteries)



MPPT 75/15



BMV702

| Type                                                                                                    | Solar panel power (W) | Current (A) | Voltage (V) | Meter    |
|---------------------------------------------------------------------------------------------------------|-----------------------|-------------|-------------|----------|
| MPPT 75/15                                                                                              | 200/400               | 15          | 12/24       | optional |
| MPPT 100/30                                                                                             | 440/880               | 30          | 12/24       | optional |
| Remote meter BMV700 for all Victron MPPT Controller incl. Shunt 500 A                                   |                       |             |             |          |
| Remote meter BMV702 for all Victron MPPT Controller incl. Shunt 500 A, shows additional battery voltage |                       |             |             |          |
| Bluetooth dongle for connecting MPPT controller with Smartphone via Victron App                         |                       |             |             |          |
| More Victron items on request                                                                           |                       |             |             |          |

## SOLARA Accessories

Use our accessories to make the installation as easy as possible. High grade solar connectors, durable cable, ready-made connection wires, Schaudt charge controller – only professional equipment for a fast and trouble-free installation. All cables are rated for outside use.

| Typ                          | Zubehör                                                                                                                                    |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| DC-Connect-C                 | Connection cable module - controller with MC4 connectors.<br>Fits to all Solara and DcSolar modules. Length 5m, size 2x 4mm <sup>2</sup>   |
| DC-Connect-B                 | Connection cable controller - battery.<br>Pre-assembled with ring cable lug. Length 1m, size 2x 6mm <sup>2</sup>                           |
| DC-Connect-M-Set             | Connection or extension cable for modules.<br>Fits to all Solara and DCSolar modules. Length 2m, size 2x 4mm <sup>2</sup>                  |
| MC4 Y-Set                    | Y-adapter set for parallel connection of two modules,<br>set with plus and minus                                                           |
| Schaudt Laderegler           | LR 18/12, for connection to Schaudt EBL, 12V, I <sub>max</sub> 18A,<br>incl. all wires, connection material and fuses                      |
| EBL connection cable<br>DA20 | Connection wire for any solar controller with Schaudt EBL<br>SOLARA digital display, on-wall mounting,<br>Voltage 8-48V, current up to 20A |
| DA20/E                       | SOLARA digital display, flush mounting,<br>Voltage 8-48V, current up to 20A                                                                |
| Haltespoiler 53,5            | Black mounting spoiler, size 53,5cm.<br>Fits perfectly to DCSolar modules                                                                  |
| Cable 2x2,5                  | Installation cable for outside use,<br>2 x 2,5 mm <sup>2</sup> , roll with 100 m                                                           |
| Cable 2x4,0                  | Installation cable for outside use,<br>2 x 4,0 mm <sup>2</sup> , 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                                                                                                |



DC Connect C



DA20 (Aufbau)



Haltespoiler 53,5



Schaudt Laderegler



Edelstahl-Solartüfter

## SOLARA ABS MOUNTING SPOILERS

**SOLARA®**  
module. komponenten. systeme

# TÜV tested, lightweight and UV-resistant

**Solara ABS spoilers in black and white are perfectly made for RVs, caravans, huts 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 to make sure that our brackets are long lasting in color and shape.

The ABS brackets exactly match exactly with the size of our solar panels, but can also be used for other panel brands. Also available are corner brackets and connectors for universal use.

The brackets are glued onto the vehicle roof with our special ABS adhesive FIX PACK. The solar panels are fixed to the spoilers by using the included screws.

### 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 IN BLACK



HS55/black

### Features

- very estatical with Solara Power S-Series modules
- More than 50% lighter than other materials
- ABS plastics with special coating
- UV-resistant
- 100% recyclable
- Screws included
- 5-year warranty

## SOLARA ABS ROOF GROMMET

**5 YEARS PRODUCT WARRANTY**

# Everlasting waterproof

**Our roof grommets are being made out of the same high-quality ABS material know from our spoilers.**

A broad glueing seam and a quality cable-gland ensure a watertight installation.

Glued with same ABS adhesive from our FIX PACK will guarantee a safe and durable 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 |
| Roof grommet | DD2/S    | 2 x PG13,5 for 2 cable |



## SOLARA ADHESIVE SET FIX PACK

# Proofed and safe bonding

Special adhesive for SOLARA ABS mounting systems, roof grommets, aluminium mounting brackets or SOLARA M-Series modules.

### Features

- ✔ Storable for one year
- ✔ For gluing ABS material on to painted surfaces
- ✔ Content of all Solara Complete Sets
- ✔ Single compound adhesive MS-Polymer
- ✔ Isocyanate-free and thus poison free



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

## SOLARA ALUMINUM BRACKETS

# For individual installation

### Features

- ✔ Sturdy aluminium brackets with a large base area for glueing
- ✔ Good for installation on 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      |



**DCsolar**  
POWERED BY SOLARA®

**INDUS**  
TRADING

Each DCsolar 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.

| DCsolar                              |                            | E 400M36                     |  |
|--------------------------------------|----------------------------|------------------------------|--|
| system voltage                       | U <sub>s</sub> = 12 V      | Systemspannung               |  |
| nominal power STC                    | P <sub>max</sub> = 90 Wp   | Nennleistung                 |  |
| power tolerance                      | ± P = ±1,5%                | Lastangabe                   |  |
| nominal voltage                      | U <sub>nom</sub> = 18,00 V | Spannung bei Maximumleistung |  |
| open circuit voltage                 | U <sub>oc</sub> = 21,90 V  | Leerlaufspannung             |  |
| nominal current                      | I <sub>sc</sub> = 5,00 A   | Strom bei Maximumleistung    |  |
| short circuit current                | I <sub>sc</sub> = 5,45 A   | Maximalstrom                 |  |
| daily performance up to order number | E <sub>h</sub> = 360 Wh/m² | Ertrag                       |  |
|                                      | 611090101                  | Artikel                      |  |
| CE                                   | CE                         | CE                           |  |

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.





## POWERFUL ENERGY ON THE MOVE

**SOLARA®**  
module. komponenten. systeme

# High tech with proved quality

## DCsolar POWER SETS AND ECO SETS

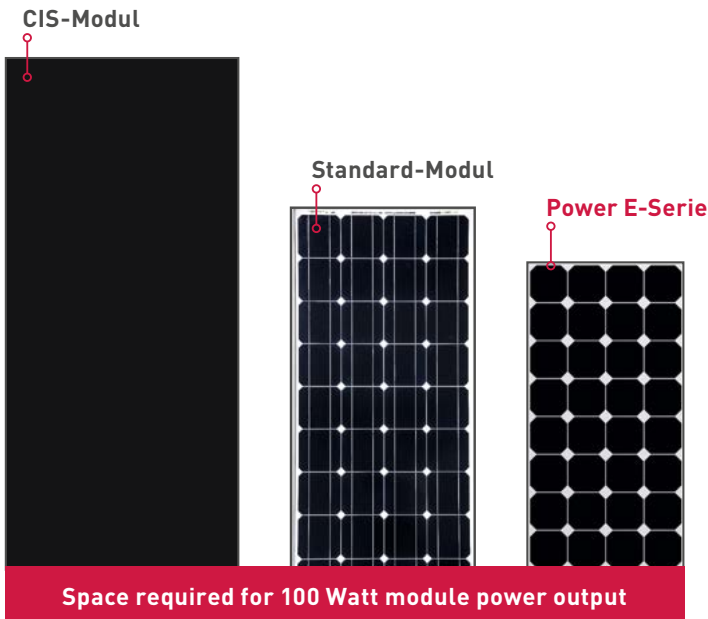
Are you looking for a high-quality solar complete set at a fair price?  
Then **DCsolar** products are the right choice!

SOLARA offers perfectly composed complete sets with the brand **DCsolar**.  
All necessary components packed in one box, incl. detailed installation instructions  
and everything plug and play!

## DCsolar MODULES FOR PROFESSIONAL APPLICATIONS

The **Power E-Series** with its state of the art back-contact solar cells has beside the naturally higher cell voltage also an excellent low-light performance and better temperature behaviour. Hence these modules produce even under low radiation conditions a sufficient voltage to charge your onboard batteries.

If only a small area is available, the **Power E-Series** is also the perfect solution, because they need up to 21% less space requirement compared to a conventional crystalline and even **over 45% less than a thin film module** (e.g., CIS).



The **E-Series** represents solar modules at a high technical level. This we achieve because we use of state-of-the-art materials and manufacturing processes, further development and review of all our products. Whether on your camper, boat or holiday home, the **E-Series** is a versatile module that, wherever you want it, charges your battery environmentally friendly.

## CERTIFICATIONS AND TESTS

- Mechanical load tests
- Climate tests of the whole solar panel
- Degradation test
- Testing the cells for micro cracks



DCsolar POWER SETS MPPT

SOLARA®  
module. komponenten. systeme

# High daily yield with MPPT technology



## MAXIMUM PERFORMANCE ON SMALLEST AREAS

### SCOPE OF DELIVERY

All delivered in one carton

- Power E-Series module(s)
- Charge controller Victron MPPT 75/15
- ABS spoiler in black, 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
- Module extension cable set \*
- MultiContact Y set \*
- Detailed installation instructions

### DCsolar POWER SETS MPPT

| Type                    | Set 5              | Set 6              |
|-------------------------|--------------------|--------------------|
| Power (W)               | 100                | 200                |
| Daily yield (Wh)        | 400                | 800                |
| Solar panel (Type)      | E400M32            | E400M32            |
| No. of cells (pc)       | 32                 | 32                 |
| No. of solar panel (pc) | 1                  | 2                  |
| Solar panel size (mm)   | 1037 x 527 x 35    | 1037 x 527 x 35    |
| Charger                 | Victron MPPT 75/15 | Victron MPPT 75/15 |

**2 YEARS PRODUCT WARRANTY**

\* only with the 200 Watt Set

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DCsolar **POWER SETS EBL****SOLARA®**  
module. komponenten. systeme

## For RVs with Schaudt EBL-Bloc



### CHARGES TWO BATTERIES AT THE SAME TIME

#### SCOPE OF DELIVERY

All delivered in one carton

- Power E-Series module(s)
- Charge controller Schaudt LR1218
- ABS spoiler in black, 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
- Module extension cable set\*
- MultiContact Y set \*
- Detailed installation instructions

#### DCsolar POWER SETS EBL

| Typ                     | Set 3           | Set 4           |
|-------------------------|-----------------|-----------------|
| Power (W)               | 100             | 200             |
| Daily yield (Wh)        | 400             | 800             |
| Solar panel (Type)      | E400M32         | E400M32         |
| No. of cells (pc)       | 32              | 32              |
| No. of solar panel (pc) | 1               | 2               |
| Solar panel size (mm)   | 1037 x 527 x 35 | 1037 x 527 x 35 |
| Charger                 | Schaudt LR1218  | Schaudt LR1218  |

**2 YEARS PRODUCT WARRANTY**Proved  
Quality

\* only with the 200 Watt Set

[www.industrading-peru.net](http://www.industrading-peru.net)

## Optimal battery charging



### READY TO INSTALL - PLUG AND PLAY

#### SCOPE OF DELIVERY

All delivered in one carton

- Power E-Series module(s)
- Charge controller Solara SR280E, 16A
- ABS spoiler in black, 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
- Module extension cable set \*
- MultiContact Y set \*
- Detailed installation instructions

#### DCsolar POWER SETS PWM

| Typ                     | Set 1           | Set 2           |
|-------------------------|-----------------|-----------------|
| Power (W)               | 100             | 200             |
| Daily yield (Wh)        | 400             | 800             |
| Solar panel (Type)      | E400M32         | E400M32         |
| No. of cells (pc)       | 32              | 32              |
| No. of solar panel (pc) | 1               | 2               |
| Solar panel size (mm)   | 1037 x 527 x 35 | 1037 x 527 x 35 |
| Charger                 | SR280E          | SR280E          |

**2 YEARS PRODUCT WARRANTY**

\* only with the 200 Watt Set

DCsolar ECO SETS

**SOLARA®**  
 module. komponenten. systeme

## The price-performance winner



### PROOFED QUALITY AT A GOOD PRICE

#### SCOPE OF DELIVERY

All delivered in one carton

- E-Series module(s)
- Charge controller Solara SR280E, 16A
- ABS spoiler in black, 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
- Module extension cable set\*
- MultiContact Y set \*
- Detailed installation instructions

#### DCsolar ECO SETS

| Typ                     | Set 1           | Set 2           |
|-------------------------|-----------------|-----------------|
| Power (W)               | 100             | 200             |
| Daily yield (Wh)        | 400             | 800             |
| Solar panel (Type)      | E400M36         | E400M36         |
| No. of cells (pc)       | 36              | 36              |
| No. of solar panel (pc) | 1               | 2               |
| Solar panel size (mm)   | 1195 x 545 x 35 | 1195 x 545 x 35 |
| Charger                 | SR280E          | SR280E          |

**2 YEARS PRODUCT WARRANTY**
**Proved  
Quality**

\* only with the 200 Watt Set

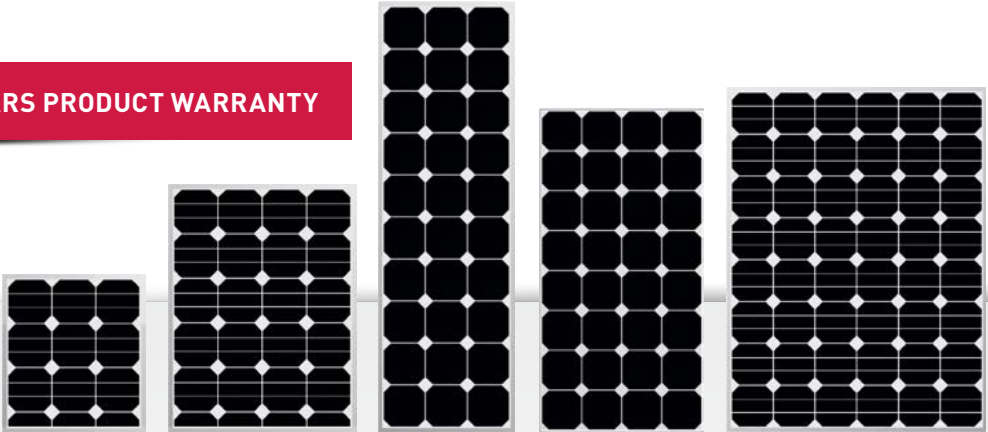
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DCsolar **POWER E-SERIES**

**SOLARA®**  
module. komponenten. systeme

## Highest performance on smallest areas

**2 YEARS PRODUCT WARRANTY**



### TOP PERFORMANCE – FOR HIGH DEMANDS

- Monocrystalline back-contact cells with more than 22% efficiency
- Highest daily yields from the most compact designs
- Outstanding low-light performance
- Temperature resistant
- Stable hollow-profile aluminum frame
- MultiContact compatible connection plugs



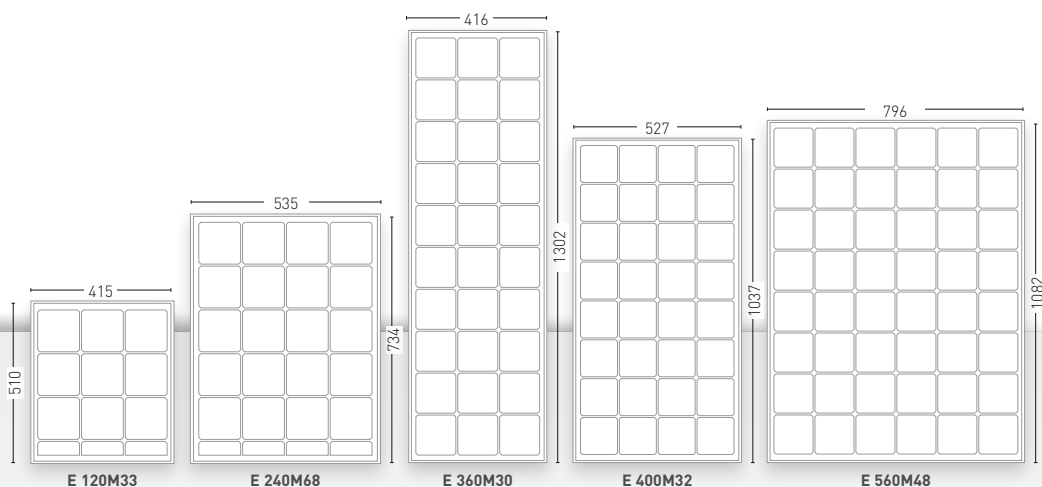
### WE GUARANTEE

- High daily yields
- 2 years product guarantee
- Unchangeable serial number
- Proved quality

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**SOLARA®**  
module. komponenten. systeme



30 W · 60 W · 90 W · 100 W · 140 W

### PERFORMANCE UNDER STC\*

| Type                               | E 120M33 | E 240M68 | E 360M30 | E 400M32 | E 560M48 |
|------------------------------------|----------|----------|----------|----------|----------|
| Ø Daily yield during summer (Wh/d) | 120      | 240      | 360      | 400      | 560      |
| Nominal Power (Pmpp) Watt          | 30       | 60       | 90       | 100      | 140      |
| Short circuit current (Isc) A      | 1.88     | 3.78     | 5.96     | 6.15     | 7.82     |
| Open circuit voltage (Uoc) V       | 21.0     | 21.3     | 20.3     | 21.6     | 24.1     |
| Current (Impp) A                   | 17.5     | 17.5     | 16.8     | 17.9     | 19.7     |
| Voltage (Umpp) V                   | 1.68     | 3.42     | 5.36     | 5.59     | 7.14     |

### Dimensions and weight

| Size [L x W x H] mm | 510 x 415 x 35 | 734 x 535 x 35 | 1302 x 416 x 35 | 1037 x 527 x 35 | 1082 x 796 x 35 |
|---------------------|----------------|----------------|-----------------|-----------------|-----------------|
| Weight kg           | 3.0            | 5.8            | 7.0             | 7.4             | 11.0            |
| No. of cells        | 33             | 68             | 30              | 32              | 144             |
| Frame color         | silver         | silver         | silver          | silver          | silver          |

### Thermal Characteristics

|                             |                |
|-----------------------------|----------------|
| TK Pmpp %/K                 | -0.32          |
| TK Uoc %/K                  | -0.28          |
| TK Isc %/K                  | 0.057          |
| NOCT °C                     | 46 ± 2         |
| Operating temperature range | -40°C to +85°C |

### More Information

|                                |                                     |
|--------------------------------|-------------------------------------|
| Measuring accuracy Pmpp at STC | ± 5 %                               |
| Cell technology                | monocrystalline back-contact cells  |
| Junction box                   | IP65 with MC4 compatible connectors |

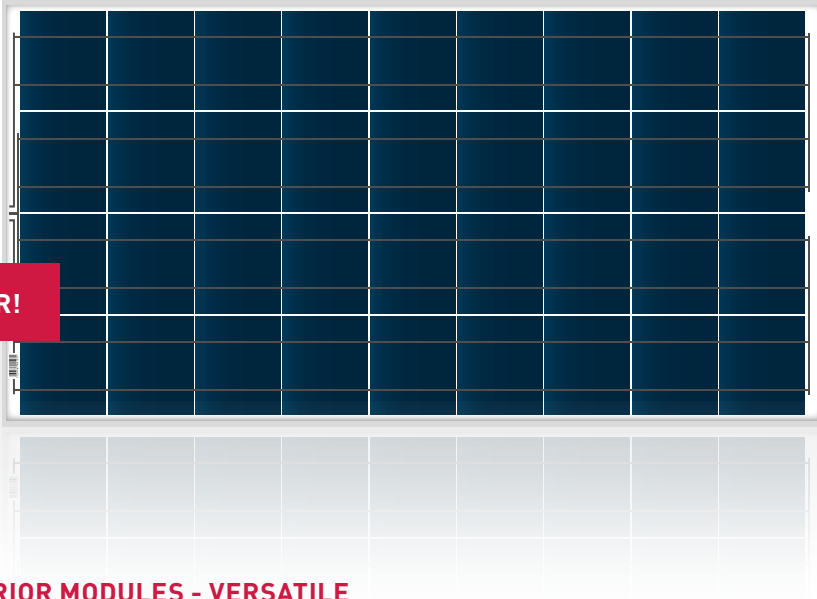
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\*Performance at STC, Standard Testing Conditions: 1000W/m<sup>2</sup>, AM 1.5, cell temperature 25° C

**DCsolar E-SERIES****SOLARA®**  
module. komponenten. systeme

## The standard module

**BESTSELLER!**

### **SUPERIOR MODULES - VERSATILE**

- 36 monocrystalline high-yield solar cells
- Stable silver hollow profile frame
- Junction box with connection cable and MC4-compatible plugs
- High-translucent solar glass
- Hail resistant



### **WE GUARANTEE**

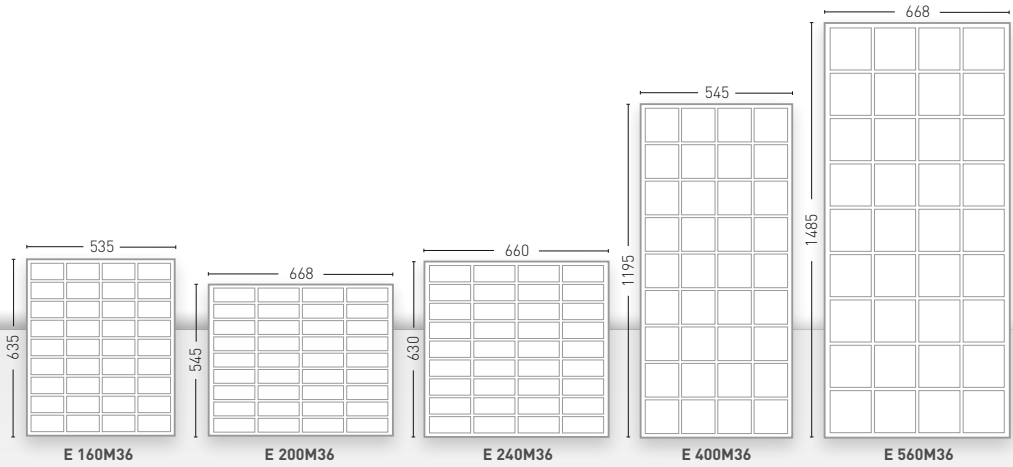
- High daily yields
- 2 years product guarantee
- Unchangeable serial number
- Proved quality

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**SOLARA®**  
module. komponenten. systeme



40 W · 50 W · 60 W · 100 W · 150 W

### PERFORMANCE UNDER STC\*

| Type                               | E 160M36 | E 200M36 | E 240M36 | E 400M36 | E 560M36 |
|------------------------------------|----------|----------|----------|----------|----------|
| Ø Daily yield during summer (Wh/d) | 160      | 200      | 240      | 400      | 600      |
| Nominal Power (Pmpp) Watt          | 40       | 50       | 60       | 100      | 150      |
| Short circuit current (Isc) A      | 2.58     | 3.13     | 3.81     | 5.53     | 9.08     |
| Open circuit voltage (Uoc) V       | 21.6     | 22.19    | 22.0     | 22.6     | 22.70    |
| Current (Impp) A                   | 17.2     | 18.02    | 17.5     | 19.35    | 18.0     |
| Voltage (Umpp) V                   | 2.33     | 2.79     | 3.43     | 5.17     | 8.34     |

### Dimensions and weight

| Size [L x W x H] mm | 635 x 535 x 35 | 545 x 668 x 35 | 630 x 660 x 35 | 1195 x 545 x 35 | 1485 x 668 x 35 |
|---------------------|----------------|----------------|----------------|-----------------|-----------------|
| Weight kg           | 4,4            | 4,3            | 5              | 7,6             | 10,1            |
| No. of cells        | 36             | 36             | 36             | 36              | 36              |
| Frame color         | silver         | silver         | silver         | silver          | silver          |

### Thermal Characteristics

|                              |                |
|------------------------------|----------------|
| TK Pmpp %/K                  | -0,44          |
| TK Uoc %/K                   | -0,36          |
| TK Isc %/K                   | 0,03           |
| NOCT °C                      | 45 ± 2         |
| BOperating temperature range | -40°C to +85°C |

### More Information

|                                |                                     |
|--------------------------------|-------------------------------------|
| Measuring accuracy Pmpp at STC | ± 5 %                               |
| Cell technology                | monocrystalline                     |
| Junction box                   | IP65 with MC4 compatible connectors |

Date 03/2017. Errors and omissions excepted. Technical changes reserved.



\*Performance at STC, Standard Testing Conditions: 1000W/m<sup>2</sup>, AM 1.5, cell temperature 25° C

DCsolar POWER FLEX

SOLARA®  
module. komponenten. systeme

## Lightweight, flat and semi-flexible



**MORE CELLS FOR  
MAXIMUM YIELDS**

**Innovation**

### TOP PERFORMANCE – FOR HIGH DEMANDS

- Semi- flexible solar panel
- Fits to any curved roof
- Extremely light weight
- Monocrystalline back-contact cells with more than 22% efficiency
- Highest daily yields and outstanding low-light performance
- Temperature resistant



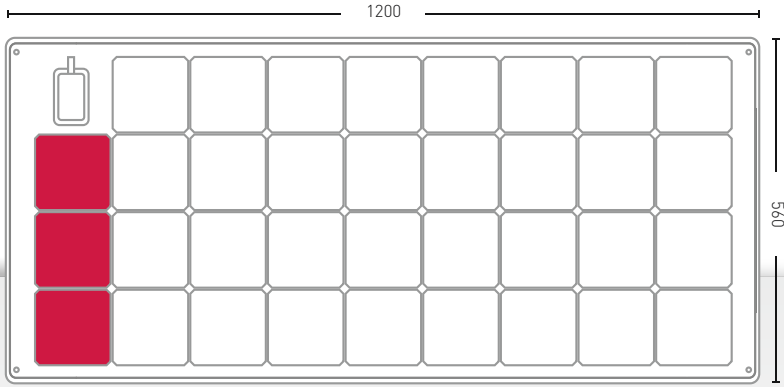
### WE GUARANTEE

- High daily yields
- 2 years product guarantee
- Unchangeable serial number
- Proved quality

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**SOLARA®**  
module. komponenten. systeme



E460M35 flex

115 W

### PERFORMANCE UNDER STC\*

| Type                               | E 460M35 flex |
|------------------------------------|---------------|
| Ø Daily yield during summer (Wh/d) | 460           |
| Nominal Power (Pmpp) Watt          | 115           |
| Short circuit current (Isc) A      | 6.30          |
| Open circuit voltage (Uoc) V       | 24.0          |
| Current (Impp) A                   | 20.30         |
| Voltage (Umpp) V                   | 5.80          |

### Dimensions and weight

|                     |                     |
|---------------------|---------------------|
| Size (L x W x H) mm | 1200 x 560 x 4 (15) |
| Weight kg           | 4.1                 |
| No. of cells        | 35                  |

### Thermal Characteristics

|                             |                |
|-----------------------------|----------------|
| TK Pmpp %/K                 | -0.32          |
| TK Uoc %/K                  | -0.28          |
| TK Isc %/K                  | 0.057          |
| NOCT °C                     | 46 ± 2         |
| Operating temperature range | -40°C to +85°C |

### More Information

|                                |                                     |
|--------------------------------|-------------------------------------|
| Measuring accuracy Pmpp at STC | ± 5 %                               |
| Cell technology                | monocrystalline back-contact cells  |
| Connection                     | 2 x 1,5 mm <sup>2</sup> , open wire |

Date 03/2017. Errors and omissions excepted. Technical changes reserved.



\*Performance at STC, Standard Testing Conditions: 1000W/m<sup>2</sup>, AM 1.5, cell temperature 25° C

# SOLARA®

module. komponenten. systeme



Your dealer

**INDUS  
TRADING**

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