SOLARA®
by CENTROSOLAR

SOLARA®
by CENTROSOLAR
Made in Germany

SOLAR ELECTRICITY FOR STAND-ALONE-SYSTEMS

2013/2014

Solar panels, components & complete systems for Solar Home Systems (SHS)
backup, hybrid and Mini Grid systems

AT HOME EVERYWHERE IN THE WORLD:

SOLARA® by Centrosolar

SOLARA®
by CENTROSOLAR

Solara® solar panels, components and complete photovoltaic systems are primarily being used in places where there 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 unfavourable 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 under an unchangeable serial number.

Centrosolar: Quality and expertise 'Made in Germany'

Solara® is a brand of Centrosolar AG, one of Europe's leading providers of photovoltaic solutions. As well as custom-made complete systems for many different uses, the German company manufactures and sells all the components needed to create high-yield, high-quality solar electricity systems.

In both research and production, Centrosolar focuses on innovativity, professional expertise and excellent 'Made in Germany' quality. Centrosolar's solar technology products and complete solutions always meet the highest standards.

Power Supply for Remote Geographical Locations

Around two billion people have no access to a controlled and reliable power supply. The availability of electricity is, however, one of the most important keys to sustainable development, especially in remote regions.

Solara®'s photovoltaic systems and components are designed specifically for use in these areas: reliable, especially high-performing and 'Made in Germany' at our own Sonnenstromfabrik in Wismar, which is one of Europe's largest solar panel production facilities.

The newest generation of Mini Grid and backup systems

Solara®'s Mini Grid systems are particularly flexible and can be adapted to a broad variety of situations with their wide range of services. This makes them ideal for rural electrification in emerging nations and developing countries. Mini Grids can be scaled up to 300 kW, providing reliable, durable power to large consumers such as hospitals, schools and entire villages. Energy generation and consumption take place on the AC side.

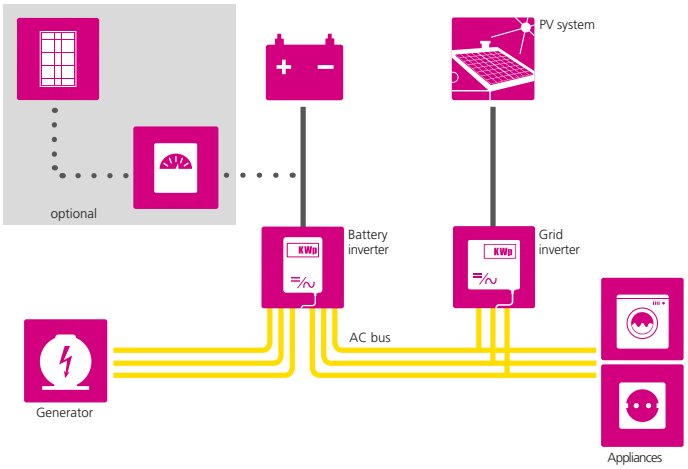
Our backup systems bridge times in which the public power grid goes offline due to overload or poor infrastructure. They are especially designed to close power supply gaps and guarantee reliable energy supply. Their battery technology also enables these systems to increase own consumption in the grid connection.

Custom-made system planning with SAS planning form

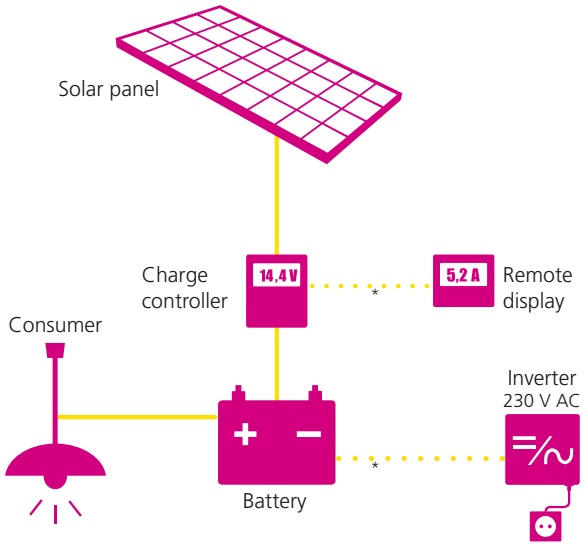
Photovoltaic island systems are as individual as their users. They must be planned exactly so that they can reliably fulfil their purpose, and have to be adapted to specific needs, the installation site and consumer behaviours. Use our detailed planning form for your system planning. This form helps you gather all the relevant information and provides an easily comprehensible view of your future system and its components and properties.

Speak to your Centrosolar representatives about your needs. They will be happy to assist you.

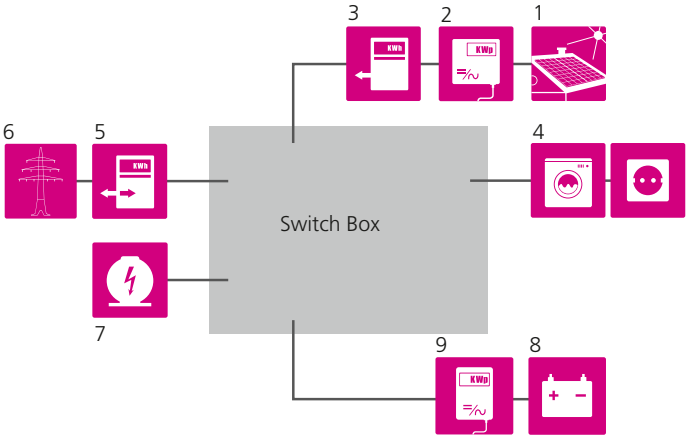
AC-coupled standalone system



DC-coupled standalone system



Backup System



1 PV system
2 Grid inverter
3 Generation meter
4 Consumer
5 Bidirectional meter
6 Public grid
7 Generator
8 Battery
9 Battery inverter

ROBUST AND RELIABLE

SOLARA® S Series Panels

SOLARA® by CENTROSOLAR

Ideal for small and medium-sized systems

The solar panels in the S Series consist of high-performance solar cells with highly robust frame designs that can be used all over the world. The panels are resilient even against extreme climate conditions; they are impervious to wind, hail, ice, snow, excessive humidity and extreme temperature fluctuations..

5 year product guarantee
26 year performance guarantee

www.tuv.com TÜVRheinland ID: 0000027145
- Qualified, IEC 61215
- Safety tested, IEC 61730
- Periodic Inspection

IEC

CE

APPROVED PRODUCT MCS BBA

5005895/QM/12.08 VDE Certified Management System DIN EN ISO 9001:2008

5005895/UM/01.11 VDE Certified Management System DIN EN ISO 14001:2009

Overview of the panels in the S Series

Panel type	S50M36 Ultra	S100M36 Ultra	S240M36 Ultra	S220M36 Ultra	S365P36 Ultra	S520P36 Ultra	S560P36 Ultra
Maximum power (Pmax)	12 Wp	27 Wp	60 Wp	55 Wp	90 Wp	130 Wp	140 Wp
Ø Daily yield in summer*	48 Wh/d	108 Wh/d	240 Wh/d	220 Wh/d	360 Wh/d	520 Wh/d	560 Wh/d
Dimensions in mm (L x W x H)	475 x 257 x 40	539 x 457 x 40	775 x 680 x 40	1330 x 350 x40	1070 x 680 x 40	1500 x 680 x 40	1500 x 680 x 40
Weight/ glass thickness	1.3 kg/3.2 mm	3.4 kg/3.2 mm	6.6 kg/3.2 mm	6.3 kg/3.2 mm	8.6 kg/3.2 mm	12.1 kg/3.2 mm	12.1 kg/3.2 mm

*Central Europe

PREMIUM SOLUTIONS FOR PROFESSIONAL USE

S-Class Excellent & S-Class Professional

- Suited for permanent professional use, even in coastal regions
- May be installed on pitched and flat roofing, as well as in ground-mounted systems
- Positive power classification
- Up to 5,400 Pa load
- Multiple-award-winning anti-reflective glass
- Manufactured in the CENTROSOLAR Sonnenstromfabrik, which is DIN EN ISO 9001 : 2008 and 14001 : 2009 compliant.
- Lockable plug connectors
- 10 year product guarantee
- Up to 26 years performance guarantee*

*For more information, please read our terms of guarantee

- Qualified, IEC 61215
- Safety tested, IEC 61730
- Heavy Snow Load tested
- Ammonia resistance tested
- Salt corrosion resistance tested
- ANSI/UL 1703 listed
- Periodic inspection

S-Class Excellent - 54 poly- or monocrystalline cells, black frame, black foil

Performance under STC*

Panel type	S 210P54 Excellent	S 215P54 Excellent	S 220M54 / S 220P54 Excellent	S 225M54 Excellent	S 230M54 Excellent	
Nominal power (Pmpp)	210	215	220	225	230	Wp
Short-circuit current (Isc)	8.66	8.71	8.78	8.94	9.10	A
Open-circuit voltage (Uoc)	32.78	32.83	32.89	32.94	32.99	V
Voltage (Umpp)	26.45	26.88	27.26	27.61	27.98	V
Current (Impp)	7.94	8.00	8.07	8.15	8.22	A
Efficiency η	14.1	14.5	14.8	15.1	15.5	%

S-Class Professional - 60 poly- or monocrystalline cells, silver frame, white foil

Performance under STC*

Panel type	S 240M60 / S 240P60 Professional	S 245M60 / S 245P60 Professional	S 250M60 / S 250P60 Professional	S 255M60 Professional	
Nominal power (Pmpp)	240	245	250	255	Wp
Short-circuit current (Isc)	8.70	8.82	8.92	9.04	A
Open-circuit voltage (Uoc)	36.53	36.60	36.67	36.74	V
Voltage (Umpp)	28.75	28.80	28.85	28.90	V
Current (Impp)	8.35	8.51	8.67	8.84	A
Efficiency η	14.6	14.9	15.2	15.5	%

* Under Standard Test Conditions (STC) (1000 W/m², spectrum AM 1.5, cell temperature 25°C); electricity tolerances ±10%

FOR ALL OUTPUTS, VOLTAGES AND BATTERY TYPES

Solar charge controllers from leading manufacturers

SOLARA® Charge Controllers

Quality "Engineered in Germany"

SOLARA® controllers charge your battery according to its type and voltage, anytime with an optimised IoU charging characteristic.
We guarantee excellent reliability, state-of-the-art technology and easy installability at a low cost. An optional load output can be used to protect your battery against deep discharging (all models except SR60UL).

Prod. no.	Panel output up to	Display	
SR60UL	60 Wp, 4 A	LED	Overvoltage protection System voltage 12V
SR135TL*	135 Wp, 8 A	LED	Overvoltage protection Low voltage disconnection System voltage 12/24 V Battery type selector
SR170CX*	170 Wp, 10 A	LCD**	Overvoltage protection Low voltage disconnection System voltage 12/24 V Battery type selector Data logger over 1 year
SR340CX*	340 Wp, 20 A	LCD**	Overvoltage protection Low voltage disconnection System voltage 12/24 V Battery type selector Data logger over 1 year

*Automatic system voltage detection
**Pie chart display

SR60UL

SR135TL

SR170CX / SR340CX

SOLARA® Remote Displays

The control panels for your PV system

Remote displays can be connected to SOLARA® SR135TL, SR170CX and SR340CX controllers and come with a two-metre connection cable.

Prod. no.	Display of	for controllers
SR/CMM	Voltage 0-35 V, current 0-25 A	SR135 TL
SR/CXM	Voltage, currrent, last 7 days of data logger entries	SR170/340CX

SR/CMM

SR/CXM

Phocos Controllers

Prod. no.	Functions
CIS-MPPT	12/24 V, up to 75 Voc, full electronic protection, Imax 20 A, 450 W max. panel output, IP 68
CIS-1.0-2L	12/24 V, full electronic protection, available in 5 A, 10 A oder 20 A I_{max}, 2 charge outputs, IP 68
CIS-1.0	same as CIS-1.0-2L with charge output and 1 dimming charge output, programmabler
CIS-CU	IR remote control programming accessory for all CIS controllers

CIS-MPPT

Image: Phocos AG

MorningStar® Controllers

Top quality from one of the world's leading manufacturers

5 year warranty

SunGuard

Advanced features:

- Epoxy-sealed printed circuit board
- Microprocessor control
- Automatic 12/24 V switching
- Charges gel-type batteries
- Temperature sensor and LVD
- Controlled target values with PWM charging
- All fuses are electronic
- Also for large systems with more than 3 kW solar

SunSaverDuo

ProStar

TriStar 45 / 60

Prod. no.	Panel output	Voltage	Display
SunGuard	up to 75 Wp, 4,5 A	12 V	-
SunSaver 6	up to 110 Wp, 6,5 A	12 V	LED
SunSaver 10	up to 170 Wp, 10 A	12 V	LED
ProStar 15	up to 250 Wp, 15 A	12/24 V	LED
ProStar 15M	up to 250 Wp, 15 A	12/24 V	LCD-Disp.**
ProStar 30	up to 500 Wp, 30 A	12/24 V	LED
ProStar 30M	up to 500 Wp, 30 A	12/24 V	LCD-Disp.**
TriStar 45	up to 740 Wp, 45 A	12-48 V	*)
TriStar 60	up to to 990 Wp 60 A	12-48 V	*)
SunSaverDuo	up to 425 Wp, 25 A	12 V	LCD remote display
SunSaverDuo	up to 425 Wp, 25 A	12 V	Controller only, no display

** LCD display for charging/discharging current and battery voltage
*) Accessories: LCD display, remote display and battery sensor on request

MorningStar® SunSaver MPPT

- 12/24 V battery voltage
- Detection of peak voltages ensures minimal power loss
- Optimised output at low sunlight levels
- Maximum solar open-circuit voltage 75 V
- Low voltage disconnection
- Data logging over 200 days
- Programmable via MS View software

SunSaver MPPT

Prod. no.	Panel output	Voltage	Display
SunSaver MPPT	up to 200/400 Wp 15 A	12/24 V	optional LCD remote display

MorningStar® TriStar MPPT

- 12/24/48 V systems possible
- Max. solar open-circuit voltage 150 V
- Full electronic protection
- Various communication connections
- 200-day data logger
- Robust design without fans
- Programmable via MS View software

TriStar MPPT

Prod. no.	Panel output	Voltage	Display
TriStar 45 MPPT	up to 2400 Wp, 45 A	12/24/48 V	Integrated LCD / remote display (optional)
TriStar 60 MPPT	up to 3200 Wp, 60 A	12/24/48 V	Integrated LCD / remote display (optional)

More MorningStar Artikel on request.

Images: MorningStar Corporation

AC CURRENT JUST LIKE OUT OF THE SOCKET

Sinus Inverters

The Swiss company Studer Innotec is one of the world's leading manufacturers of sine-wave inverters and battery chargers for use in photovoltaic, marine and mobile applications, in emergency power supply and in telecommunications.

Studer AJ Series
The AJ series of sine-wave inverters convert direct current from one battery into alternating current that can be used for all electronic devices. They function as reliably and trouble-free as a Swiss clock, and hold up even under extraordinary loads.

Properties:
- Highly efficient
- Microprocessor control
- Complete inverter protection against overload, overheating, short-circuits and polarity reversal
- Load detection can be adjusted, beginning at very low values (stand-by)
- Function for optimising battery life

	Pnom/P30	Battery voltage	Voltage / frequency
AJ 275-12 (-01)	200 / 275 VA	12 V	230 VAC / 50 Hz
AJ 350-24 (-01)	300 / 350 VA	24 V	230 VAC / 50 Hz
AJ 400-48 (-01)	300 / 400 VA	48 V	230 VAC / 50 Hz

AJ 500-12 (-01)	400 / 500 VA	12 V	230 VAC / 50 Hz
AJ 600-24 (-01)	500 / 600 VA	24 V	230 VAC / 50 Hz
AJ 700-48 (-01)	500 / 700 VA	48 V	230 VAC / 50 Hz

AJ 1000-12 (-01)	800 / 1000 VA	12 V	230 VAC / 50 Hz
AJ 1300-24 (-01)	1000 / 1300 VA	24 V	230 VAC / 50 Hz

AJ 2100-12 (-01)	2000 / 2100 VA	12 V	230 VAC / 50 Hz
AJ 2400-24 (-01)	2000 / 2400 VA	24 V	230 VAC / 50 Hz

AJ accessories

JT8	The JT8 remote control can control AJ series inverters at a distance (ON/OFF). The system status is displayed with an LED (ON / Standby / temporary OFF). For AJ series sine-wave inverters from 1,000 to 2,400 VA. Delivered with 5 m cable.
RCM	Connection (plug and socket) for switching AJ series inverters on/off under certain conditions. For AJ series sine-wave inverters from 275 to 700 VA.

Images: Studer Innotec SA

Studer Xtender Series

The combination inverters in the Xtender series, which can be remote controlled, are extraordinarily versatile. They combine the features of an inverter, battery charger, switching mechanism and support for external AC power sources, all in one device. All of these functions can be combined with one another and controlled fully automatically, which provides ease of use and extremely efficient utilisation of available energy.

	Battery voltage	Voltage / frequency	Inverter power P30/Pnom	Charger adjustable charging current	Switching relais max. current
XTS 900-12 (-01)	12 V	230 VAC / 50 Hz	900 * / 500 VA	35 A	16 A
XTS 1200-24 (-01)	24 V	230 VAC / 50 Hz	1200 * / 650 VA	25 A	16 A
XTS 1400-48 (-01)	48 V	230 VAC / 50 Hz	1400 * / 750 VA	12 A	16 A

XTM 1500-12 (-01)	12 V	230 VAC / 50 Hz	1500 / 1500 VA	70 A	50 A
XTM 2000-12 (-01)	12 V	230 VAC / 50 Hz	2000 / 2000 VA	100 A	50 A
XTM 2400-24 (-01)	24 V	230 VAC / 50 Hz	2400 / 2000 VA	55 A	50 A
XTM 2600-48 (-01)	48 V	230 VAC / 50 Hz	2600 / 2000 VA	30 A	50 A
XTM 3500-24 (-01)	24 V	230 VAC / 50 Hz	3500 / 3000 VA	90 A	50 A
XTM 4000-48 (-01)	48 V	230 VAC / 50 Hz	4000 / 3500 VA	50 A	50 A

XTH 3000-12 (-01)	12 V	230 VAC / 50 Hz	3000 / 2500 VA	160 A	50 A
XTH 5000-24 (-01)	24 V	230 VAC / 50 Hz	5000 / 4500 VA	140 A	50 A
XTH 6000-48 (-01)	48 V	230 VAC / 50 Hz	6000 / 5000 VA	100 A	50 A
XTH 8000-48	48 V	230 VAC / 50 Hz	8000 / 7000 VA	120 A	50 A

Xtender accessories

For programming, system control and data analysis of Xtender units

RCC02 / RCC03	Remote control and programming unit RCC02/03 for setting Xtender parameters With SD card reader which enables saving and loading of presets RCC02 = external unit / RCC03 = built-in version Delivered with 2 m cable
BTS 01	This sensor automatically adjusts battery voltage thresholds to the temperature. Incl. 5 m cable

General accessories

Cable 35 mm^2	Connecting cable with ring-type lug, length 2 m or 4 m
Cable 70 mm^2	Connecting cable with ring-type lug, length 3 m or 6 m
Cable 95 mm^2	Connecting cable with ring-type lug, length 3 m or 6 m
Batfuse B.01	NH fuse up to 2x250 A, 3 DC inputs
Batfuse B.03	NH fuse up to 6x250 A, 6 DC inputs

More Studer accessories on request.

Images: Studer Innotec SA

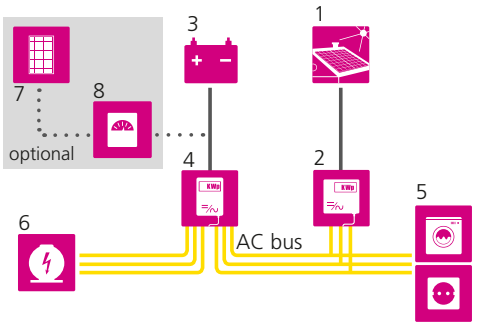
PREMIUM POWER SUPPLY SOLUTION

Mini Grid Systems

Mini Grid Systems

Remote geographical areas without a permanent power grid need to build a fully autonomous solution for power supply that works reliably and stably under severe climactic conditions.

AC-coupled SMA island power grids are built on a modular basis, which makes them easy to install and adaptable to a broad range of requirements. Sunny Island inverters, combined with a high-performance battery, enable the construction of a reliable AC power network, for rural electrification for instance. Power generators such as photovoltaic systems and numerous other energy production systems can be connected to the grid on the AC side without difficulty; this does away with expensive DC cabling when building the system. Domestic devices and other conventional power consumers can be easily connected to the grid.



1 PV system
2 Grid inverter
3 Battery
4 Battery inverter
5 Consumer
6 Generator
7 PV panel
8 Charge controller

Typ	AC power Pnom/P30	Equipment
SI 2224	2200 W/2900 W	24V DC, 90 A max. charging current, 2 multifunctional relays, LED display, dimensions: 470 x 445 x 185 mm, weight: 19 kg, IP54, 3-phase systems available, parallel circuit available
SI 5048	5000 W/6500 W	48V DC, 120 A max. charging current, 2 multifunctional relays, LED display and two-line display, dimensions: 467 x 612 x 235 mm, weight: 63 kg, IP30, MMC/SD card slot, 3-phase systems available, parallel connection possible
SI 6.0	4000 W/6000 W	48V DC, 110 A max. charging current, 2 multifunctional relays, LED display and two-line display, dimensions: 467 x 612 x 235 mm, weight: 63 kg, IP54, external display with SD slot, 3-phase systems available, parallel connection possible
SI 8.0	6000 W/8000 W	48V DC, 140 A max. charging current, 2 multifunctional relays, LED display and two-line display, dimensions: 467 x 612 x 235 mm, weight: 63 kg, IP54, external display with SD slot, 3-phase systems available, parallel connection possible

Sunny Island accessories

Type	Accessories
SRC-1	Control unit for SI 2224, SI 6.0 and SI 8.0 with SD card and 5 m synchronisation cable
MC-Box 6.3	3-phase multicluster box, for 6 SI 6.0 and SI 8.0, with 55 kW PV, load and generator connections
MC-Box 12.3	3-phase multicluster box, for 12 SI 5048, with 110 kW PV, load and generator connections
MC-Box 36.3	3-phase multicluster box, for 36 SI 6.0 u. SI 8.0, with 300 kW PV, load and generator connections
RS485	Interface for integration into SI
MC Piggy Back	CAN and RS485 interface for multicluster systems

Sunny Island 5048

General accessories

Cable 35 mm^2	Connecting cable with ring-type lug, length 2 m or 4 m
Cable 70 mm^2	Connecting cable with ring-type lug, length 3 m or 6 m
Cable 95 mm^2	Connecting cable with ring-type lug, length 3 m or 6 m
Batfuse B.01	NH fuse up to 2x250 A, 3 DC inputs
Batfuse B.03	NH fuse up to 6x250 A, 6 DC inputs

More SMA accessories on request.

Image: SMA Technology AG

STATIONARY BATTERIES WITH LIQUID ELECTROLYTE

OPzS Batteries - 2 V Cells

HOPPECKE
POWER FROM INNOVATION

Hoppecke battery systems are known for their extraordinary lifespan and reliability. The rechargeable batteries from this traditional German company are used in all of Centrosolar's stand-alone-systems, from power generation systems to industrial systems.

Vented OPzS solar.power batteries
These vented lead acid batteries for cyclical applications are equipped with positive tubular plates that ensure especially long life, even under high charging and discharging loads. They are therefore ideally suited for solar and off-grid applications. They contain liquid electrolytes and are equipped to attain maximum energy efficiency.

Overview of OPzS solar.power battery features:
- Maximum cyclic stability and durability
- Norm IEC 61427, DIN 40736-1
- Maximum reliability when supplying insular systems or off-grid consumers with power
- Maximum energy efficiency with reduced charging factor, prepared in series with electrolyte circulation
- Optimum environmental compatibility by means of closed recycling in a certified recycling system
- Extremely long water refill intervals thanks to use of AquaGen® recombination system
- Battery frame and acid pans also available as options
- Up to 3.000 cycles at DoD 50%

Type	Capacity c10 (Ah)	Capacity c100 (Ah)	Dimensions (mm)	Weight (kg)
2V 4 OPzS solar.power 280	213	280	208 x 105 x 420	17.2
2V 5 OPzS solar.power 350	266	350	208 x 126 x 420	20.8
2V 6 OPzS solar.power 420	320	420	208 x 147 x 420	24.3
2V 5 OPzS solar.power 520	390	520	208 x 126 x 535	26.9
2V 6 OPzS solar.power 620	468	620	208 x 147 x 535	31.5
2V 7 OPzS solar.power 730	546	730	208 x 168 x 535	36.1
2V 6 OPzS solar.power 910	686	910	208 x 147 x 710	44.8
2V 8 OPzS solar.power 1220	915	1220	215 x 193 x 710	61.3
2V 10 OPzS solar.power 1520	1140	1520	215 x 235 x 710	74.6
2V 12 OPzS solar.power 1820	1370	1820	215 x 277 x 710	88.0
2V 12 OPzS solar.power 2170	1610	2170	215 x 277 x 855	114.3
2V 16 OPzS solar.power 2900	2150	2900	215 x 400 x 815	151.5
2V 20 OPzS solar.power 3610	2680	3610	215 x 490 x 815	193.0
2V 24 OPzS solar.power 4340	3220	4340	215 x 580 x 815	246.0

OPzS battery accessories

Battery acid pans	misc. on request
Battery racks	misc. on request
Aqua Gen	Recombination plug for reduced maintenance

Images: Hoppecke

STATIONARY BATTERIES WITH GEL TECHNOLOGY

OPzV Batteries - 2 V Cells

HOPPECKE
POWER FROM INNOVATION

Sealed OPzV solar.power batteries
These stationary lead acid batteries are permanently sealed and need not be filled with water. Because they contain a fixed electrolyte gel, they can also be installed horizontally if needed. They have an especially long cyclical lifespan thanks to positive tubular plates.

Overview of OPzV solar.power battery features:
- Maximum cyclic stability and durability
- Norm IEC 61427, DIN 40742
- Minimal maintenance with the highest safety, thanks to sealed gel technology
- Maximum reliability when supplying insular systems or off-grid consumers with power
- Maximum resistance against mechanical loads thanks to reinforced, impact-proof polypropylene housing
- Greatest project flexibility due to outstanding shelf life
- Optimum environmental compatibility by means of closed recycling in a certified recycling system
- Battery frame also available
- Up to 3.000 cycles at DoD 50%

Type	Capacity c10 (Ah)	Capacity c100 (Ah)	Dimensions (mm)	Weight (kg)
2V 4 OPzV 250 solar.power	207	250	208 x 105 x 420	20
2V 5 OPzV 310 solar.power	259	310	208 x 126 x 420	24
2V 6 OPzV 370 solar.power	310	370	208 x 147 x 420	28
2V 5 OPzV 420 solar.power	391	440	208 x 126 x 535	31
2V 6 OPzV 520 solar.power	469	560	208 x 147 x 535	37
2V 7 OPzV 620 solar.power	548	660	208 x 168 x 535	42
2V 6 OPzV 750 solar.power	682	810	208 x 147 x 710	50
2V 8 OPzV 1000 solar.power	910	1080	215 x 193 x 710	68
2V 10 OPzV 1250 solar.power	1140	1350	215 x 235 x 710	82
2V 12 OPzV 1500 solar.power	1370	1570	215 x 277 x 710	97
2V 12 OPzV 1700 solar.power	1520	1720	215 x 277 x 815	120
2V 16 OPzV 2300 solar.power	2030	2320	215 x 400 x 815	165
2V 20 OPzV 2900 solar.power	2540	2930	215 x 490 x 815	200
2V 24 OPzV 3500 solar.power	3050	3540	215 x 580 x 815	240

OPzS battery accessories

Battery racks	misc. on request

Images: Hoppecke, Centrosolar

Block Batteries 6 V/12 V Blocks

HOPPECKE
POWER FROM INNOVATION

OPzS solar bloc

Time-tested sealed battery technology in compact dimensions. With liquid elektrolyte.

- Up to 3.000 cycles at DoD 50%
- Extended water refill intervals when using the AquaGen® recombination tool
- Battery lid with integrated handle

Type	Capacity c10	Capacity c100	Dimensions (mm)	Weight (kg)
12 V 1 OPzS bloc solar.power 70	50	70	272 x 205 x 383	37
12 V 2 OPzS bloc solar.power 130	101	130	272 x 205 x 383	4
12 V 3 OPzS bloc solar.power 200	151	200	380 x 205 x 383	67
6 V 4 OPzS bloc solar.power 270	202	270	272 x 205 x 383	47
6 V 5 OPzS bloc solar.power 330	252	330	380 x 205 x 383	60
6 V 6 OPzS bloc solar.power 400	302	400	380 x 205 x 383	67

OPzV solar bloc

Well-known sealed gel technology in compact dimensions.

- Up to 3.000 cycles at DoD 50%
- Battery lid with integrated handle

Type	Capacity c10	Capacity c100	Dimensions (mm)	Weight (kg)
12 V 1 OPzV bloc solar.power 70	48	70	272 x 205 x 383	38
12 V 2 OPzV bloc solar.power 120	96	120	272 x 205 x 383	52
12 V 3 OPzV bloc solar.power 180	144	180	380 x 205 x 383	74
6 V 4 OPzV bloc solar.power 250	192	250	272 x 205 x 383	51
6 V 5 OPzV bloc solar.power 300	240	300	380 x 205 x 383	66
6 V 6 OPzV bloc solar.power 370	289	370	380 x 205 x 383	73

AGM Batteries

Sealed lead-acid battery, almost maintenance-free due to Absorbent Glass Mat-technology. The ideal battery for small and mid-sized cyclic applications.

- Maintenance-free due to AGM technology
- 1500 cycles at 50% DoD
- Ideal for street lighting or small technical systems

Type	Capacity c10 (Ah)	Capacity c100 (Ah)	Dimensions (mm)	Weight (kg)
solar.bloc 12 V 58	50	58,3	247 x 175 x 190	19
solar.bloc 12 V 70	60	70,0	278 x 175 x 190	23
solar.bloc 12 V 80	70	81,7	315 x 175 x 190	24
solar.bloc 12 V 90	80	93,3	353 x 175 x 190	28
solar.bloc 12 V 105	90	105,0	344 x 177 x 230	38
solar.bloc 12 V 135	115	134,2	344 x 170 x 275	46
solar.bloc 12 V 150	130	151,7	498 x 177 x 230	55
solar.bloc 6 V 200	170	198,3	242 x 170 x 275	32
solar.bloc 6 V 250	220	251,0	308 x 170 x 275	41

Images: Hoppecke

INNOVATIVE, EFFICIENT, DURABLE

Mounting Systems for Any Kind of Surface

A vast number of installation possibilities in addition to high mechanic stability give our mounting systems a broad area of application. Our mounting systems are characterised by innovation and performance as well as simple and low-cost installation. We provide complete systems and will compile mounting systems for on-roof systems, roof-parallel, elevated or building-integrated systems to suit your needs.

Advantages/characteristics:

- Use of high-quality materials such as corrosion-resistant stainless steel and aluminium, high-pressure polyethylene (HDPE), coated profiles and metal sheets
- Premium quality and durability

MS CENTOP SMART

Easy to install solution for pitched roofs with trapezoidal sheet metal roofing. Only four distinct components are needed for installtion. Depending on the thickness of the sheets, two different self-drilling screws are available. EPDM gaskets guarantee absolute rain-watertightness.

MS ECOLINE PROFESSIONAL

A well-priced one-layer mounting system with good panel ventilation for a positive performance record. Flexible modular system and a broad area of application with portrait or landscape installation characterise this mounting system. Exclusively made from corrosion-resistant stainless steel and aluminium components.

MS CONSOLE PROFESSIONAL

Ballast-secured on-roof system for flat roofs up to a maximum pitch of 5 degrees. Exceptionally fast mounting of solar panels. The ballast can be chosen individually. Optimised ventilation due to integrated ventilation outlets. Console consists of UV-resistant high-pressure polyethylene (HDPE). Exclusively made from corrosion-resistant stainless steel and aluminium components.

GROUND-MOUNTED SYSTEM

Individually planned and structurally calculated system. One row of stands can carry several panel rows. Exclusively made from corrosion-resistant stainless steel and aluminium components.

Phocos Pico Lamp Sets

Multifunctional Pico LED lights can be used on a stationary or mobile basis. They were designed especially for applications where there is no power supply, such as for rural electrification or the leisure / outdoor sector. The Pico lamp is equipped with a highly efficient power LED and excellent charge controlling technology.

- Can be charged with solar panel, 12 V battery or grid charging device
- High protection class (IP65)
- USB-powered connection for charging of mobile telephones, MP3 players etc.
- High-power LED
- 3 brightness levels
- Can be expanded on a modular basis

Pico System Premium Plus Set

Typ	
Pico System Starter Set	Lamp, DC cable, USB hub, remote swith, mobile phone charging set
Pico System Premium Set	Lamp, 3 Wp solar panel, USB hub, remote switch, mobile phone charging set
Pico System Premium Plus Set	2 x lamps, 5 Wp solar panel, distributor box, 2 x extension cables, USB hub, 2 x remote switch, mobile phone charging set

Image: Phocos AG

AT HOME EVERYWHERE

Projects All Over the World

SOLARA® by CENTROSOLAR

POWER SUPPLY IN THE EVENT OF GRID FAILURE

Object: German embassy
PV system size: 5.7 kW
Products: Centrosolar Excellent panels, SMA Sunny Backup, Hoppecke batteries
Location: Vientiane, Laos

NETMETERING

Object: SOS Children's Village
PV system size: 60 kW
Products: Centrosolar Excellent panes, SMA inverter
Location: Mombasa, Kenia

POWER SUPPLY FOR A HOSPITAL

Object: Hospital and patient building
PV system size: 9.1 kW
Products: Centrosolar Professional, SMA Sunny Island, Rolls batteries
Location: Irrawaddy delta, Myanmar

VILLAGE POWER SUPPLY

Object: Hybrid system
PV system size: 150 kW and 50 kW
Products: Centrosolar Professional panels, Sunny Island, Hoppecke batteries
Location: Kolondiba, Mali

POWER SUPPLY FOR A SHELTER

Object: Shelter in national park
PV system size: 0.50 kW
Products: Solara® S Series panels, MorningStar charge controllers
Location: Retezat National Park, Romania

POWER SUPPLY FOR A MONITORING STATION

Object: Weather data recording
PV system size: 0.75 kW
Products: Solara® S Series panels
Location: Tien Shan Mountains, Kirgisistan

SOLARA®
by CENTROSOLAR

Centrosolar's factory Sonnenstromfabrik in Wismar

The high-performance, high-resistance Solara® panels are all manufactured at Centrosolar's Sonnenstromfabrik ('Solar Electricity Factory') in Wismar, Germany.

For over 15 years now, this has been the home base from which our engineers and specialists have been providing their extensive technological expertise to generate energy in a sustainable and environmentally friendly way. Our R&D team includes some of the most respected experts in the field and frequently collaborates with renowned education and research institutions. We firmly believe that planning, production and sales go hand-in-hand and should always come from a single provider. This way, we can offer you the highest quality in products and services at all times – with maximum reliability, transparency and flexibility for you as well as for us.

Your specialist dealer:

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