

Domestic Solar Solutions



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MERKUR Solar Solutions



Ulrich Scheller
Export Manager

For over 100 years – since the time of Werner von Siemens – German Technology is renowned for outstanding innovation and technical leadership. **MERKUR**® Ueberseehandel GmbH is committed to this long tradition.

Under **MERKUR**® German Technology we develop and produce warranted, durable high quality products in the following segments:

- Electrotechnology
- **DUPROLUX**® Lighting
- Metering
- Power Distribution
- Climatisation
- Renewable Energy

MERKUR® clients worldwide can rely on our vast experience. We offer authorised distributors competitive prices better allowing them to compete in the market. We also successfully cooperate with contractors who are bidding for public utility tenders.

Clean renewable energy production is compulsory for a healthy and prosperous life. Limiting the use of carbon-based energy resources with their highly pollutive side effects requires

innovative and effective technologies to be implemented in order to cope with rising energy demand.

MERKUR Renewable Energy products are state-of-the-art and meet highest technical requirements. We focus on durable and eco-friendly materials that perform at the lowest possible energy consumption and reduce the environmental footprint.

Our **MERKUR** Vertical Axis Wind Generators are suitable for commercial and private usage. They are especially useful in the segment of public lighting systems and signalling installations.

Wind and solar energy are both used in our **MERKUR** Hybrid Systems, which are perfect power supply applications for:

- domestic and commercial buildings
- agriculture
- **DUPROLUX**® street lighting
- traffic signals
- telecommunications
- offshore environments
- boats
- camps
- off grid power supplies

MERKUR also produces **DUPROLUX**® solar lights and solar ventilators.

MERKUR is a reliable partner with a tradition of providing individually tailored products and solutions in accordance with customers' needs. Contact us and we gladly assist you with more details about our products and services. Get in touch with us!

Export Manager

MERKUR Solar Complete Solutions



MERKUR Solar Complete Solutions

For the domestic power supply **MERKUR** German Technology is offering a variety of integrated solar systems. These are high quality turn-key systems, comprising all necessary components and hardware from one source.

This offer is giving many benefits to our clients:

- well proven system technology
- reliable system integration and harmonization
- usage of only highest quality components/technology
- Made in Germany
- easy and handy mounting system
- harmonized product warrantee

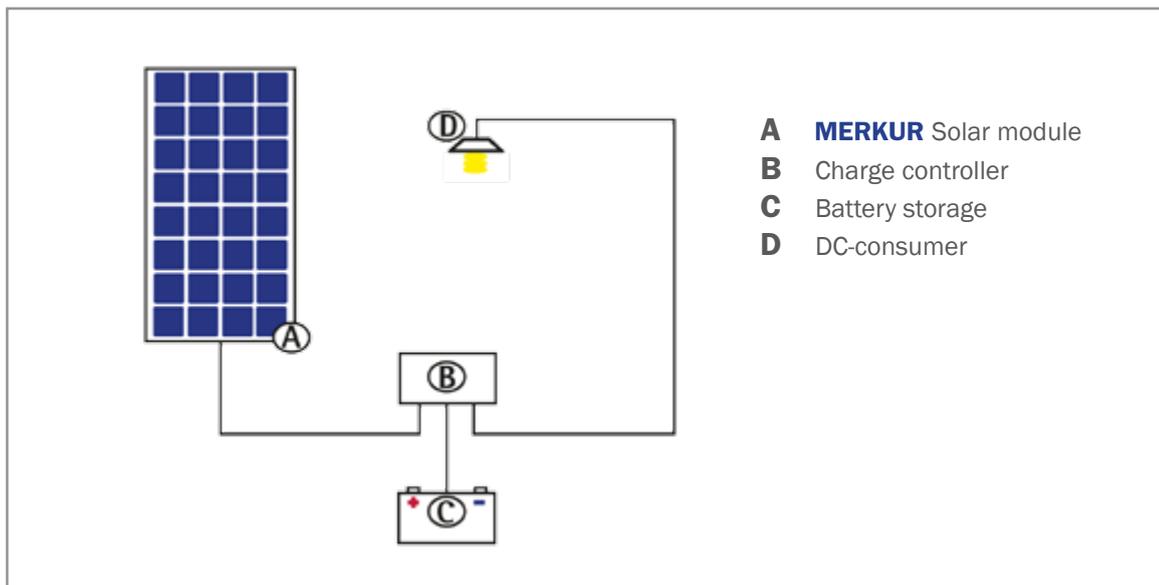
Our systems are made up from the following variants:

- island mode off-grid solutions stand alone operation
- hybrid solutions, enhancing the on grid domestic connection by a domestic solar back up system

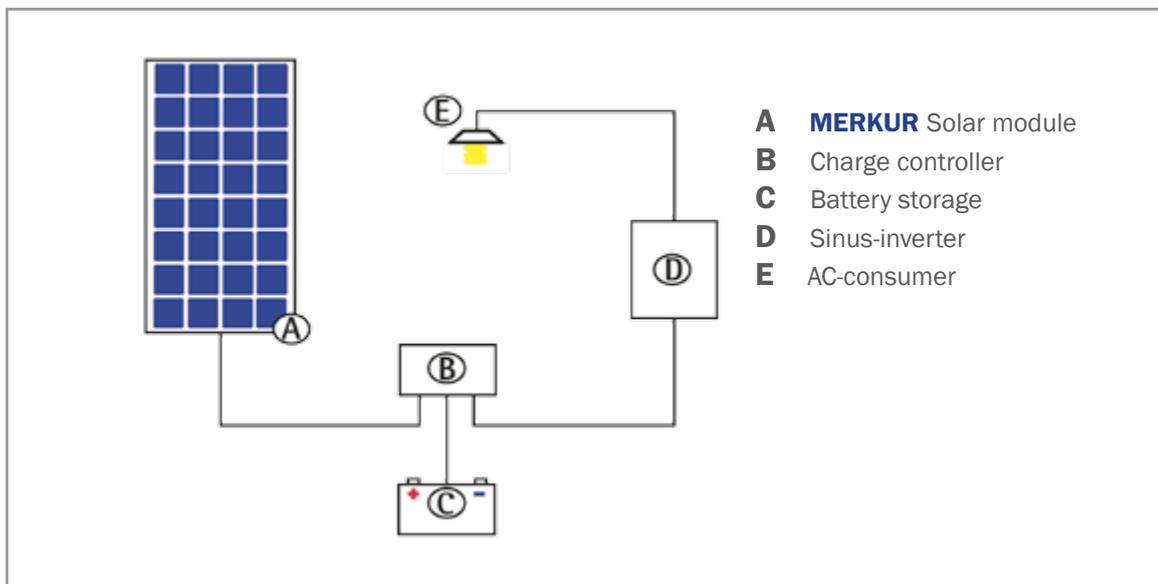
Both variants are available in different power categories to match the needs of our clients. We are also offering professional assistance for the evaluation of the local power requirements/ the system layout, **MERKUR** is also offering standard solar power packages with a nominal power of 1,5 , 3 and 5 kW.

Solar system overview

Island System 12 V / 24 V / 48 V

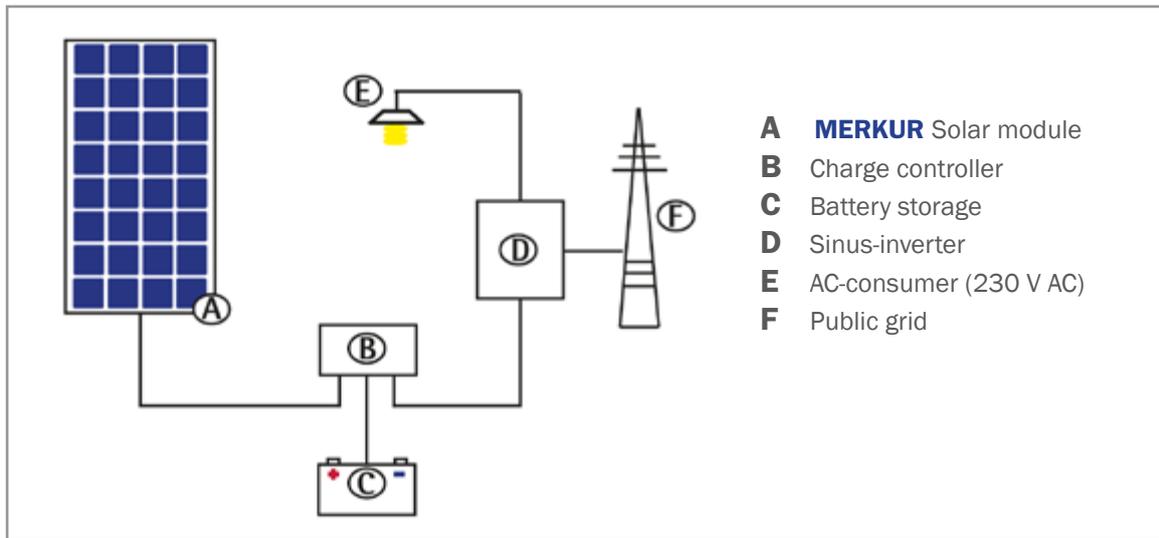


Island System 230 V

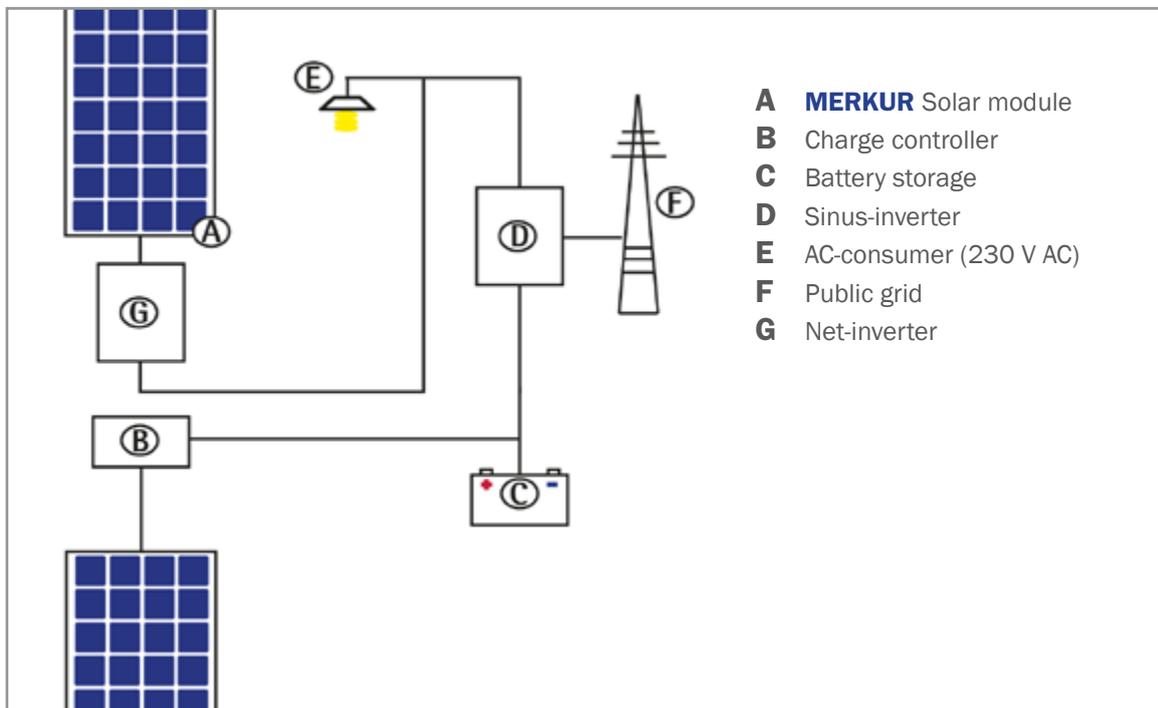


Solar system overview

DC-hybrid-system



AC-hybrid-system



Off-grid packages

Off-grid packages

MERKUR German Technology has designed 3 basic solar power packages for an easy approach to renewable energy. These packages are especially suitable for low power consumption households in developing countries, where air conditioning is not required and accordingly the average electric load remains rather low.

Nevertheless it is recommended to put each individual solar project under scrutiny towards the exact power requirements before placing the order. During the process of the negotiation of your order we will make sure that we do know your environment in more detail and if necessary we will recommend the necessary system adjustments to you.

Our basic off-grid solar power packages are designed to meet the demand of the basic power consumption. The system layout would allow, based on average 4,5 hours direct sunshine:

- 1,5kW nominal power = 60W for 24h per day
- 3 kW nominal power = 120W for 24h per day
- 5kW nominal power = 240W for 24h per day

The **MERKUR** German Technology Solar Packages are made up from the following components, specifically integrated with each other for maximum performance:

Solar module PX 1506

- 150 WP
- UMPP = 18.5 V
- IMPP = 8.08 A
- UOC = 22.2 V
- ISC = 8.7 A
- Dimensions: 1.480 x 660 x 40 mm
- Weight: 11.7 kg
- 36 highly efficient polycrystalline cells
- +- 5% production tolerance only wiring
- 25 years warranty on solar cells

Charger/charge controller

- Operating Voltage = 12V/24V
- Vmax = 20A

- Wmax = 20A
- Weight: 350gr
- Terminal connector: max 25sqmm diameter
- Protection class: IP32
- LED-indicator
- Wiring: per charger 2 Modules

Solar Battery 255 Ah

- Operating Voltage: 12V
- Long service life cycle
- Very high cycle continuity
- Minimal maintenance requirements
- Very low own discharge
- Dry charged
- Empty weight: 43kg
- Measurements: 515x290x250mm

Battery Pole clamp set (+/-)

SDMA mounting system

The system allows to remove individual panels for maintenance independently.

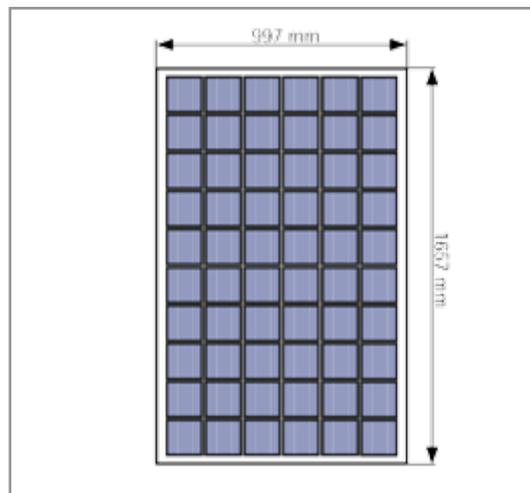
- Prefabricated "ready to install" Aluminium support system prefabricated for immediate slanted roof mounting
- stainless steel screws
- mounting accessories included

Solar cabel

- double insulated
- UV- Ozon and temperature resistant
- MC plug set included

Contents	Package SDS-1 1.5	Package SDS-2 3.0	Package SDS-2 3.0
Solar module PX 1506	4 modules	8 modules	15 modules
Charge controller	2	4	5
Solar battery	1 battery	2 batteries	3 batteries
Battery pole	1 Set	2 Sets	3 Sets
SDMA mounting system	1 Set	1 Set	1 Set
Solar cabel	20 m 2.5mm cable	40 m 2.5mm cable	50 m 4mm cable

Photovoltaic Modules PX Series



MERKUR PX Series made by Sunset

The PX series of **MERKUR** photovoltaic modules are a result of our long term experience with poly crystalline cells. The modules are designed for applications with high power requirements.

These outstanding series produce a continuous and reliable yield, even under extreme conditions. The modules of the **MERKUR** PX Series made by sunset are suitable for on-grid and special off-grid applications.

- 60 high-performance poly crystalline silicon solar cells with an efficiency up to 19%
- Textured cell surface for particularly high electricity yields
- Use of tempered white high resistant solar glass, EVA plastic, and weather protection, as well as an anodised aluminium frame for long-term use
- Manufactured under German quality standards
- Also suitable for our roof and field mounting systems

Over the years **MERKUR** Solar made by sunset has set high benchmarks with its high quality standards.

Continuous tests guarantee a consistently high level of quality. Every module undergoes visual, mechanical, and electrical inspections. Each module will be HV-tested and examined by electro luminescence This is recognisable by our guarantee:

- 5 years product warranty
- 10 years linear performance warranty for a power output of 90%
- 25 years linear performance warranty for a power output of 80%
- Detailed warranty conditions and additional information can be found in our warranty terms
- Certified according to IEC 61215 and IEC 61730

Photovoltaic Modules PX Series

Technical specifications PX Series

- Protection class II
- System voltage: 1000 V
- Reverse current: 15 A
- Temperature coefficient: $I_{sc} + 0.053 \%/K$
- Temperature coefficient: $V_{oc} - 0.32 \%/K$
- Front covering: 4 mm solar glass
- Back covering : multi layer foil
- Type of cell: poly crystalline
- Protection class: junction box IP 65
- Cable connection: Multi Contact MC4 or compatible
- Weight: 21.9 kg
- Dimensions: 1657 x 997 x 47 mm
- HL-test: 5400 Pa

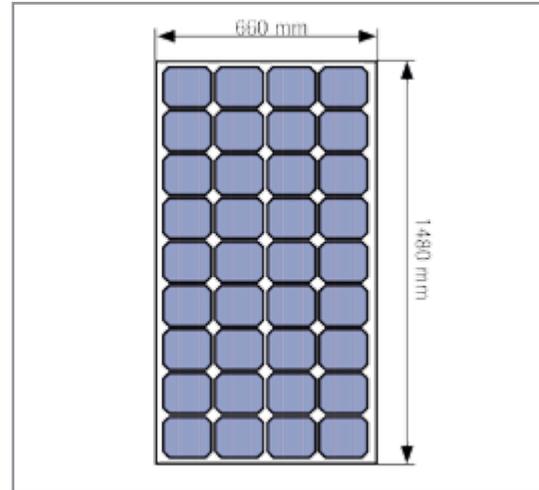
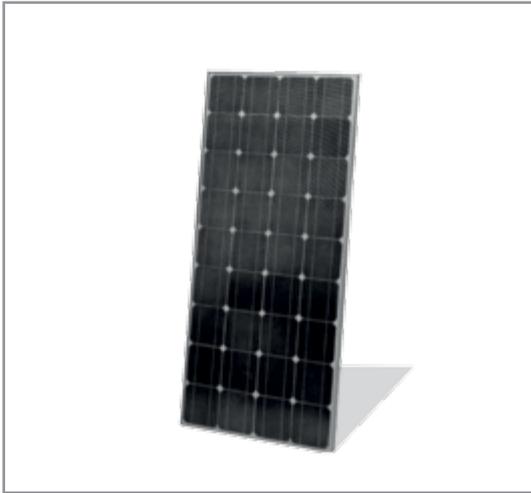
Peak power under test conditions (STC: 1000 W/m², 25°C, spectrum AM 1,5)

Specifications	PX 200	PX 210	PX 220	PX 230	PX 240	PX 250
Nominal power	200 W	210 W	220 W	230 W	240 W	250 W
Rated current	6.90 A	7.11 A	7.40 A	7.70 A	7.95 A	8.17 A
Rated voltage	29.0 V	29.5 V	29.8 V	29.9 V	30.3 V	30.5 V
Short circuit current	7.60 A	7.80 A	8.10 A	8.20 A	8.50 A	8.80 A
Open circuit voltage	36.0 V	36.3 V	36.6 V	36.9 V	37.2 V	37.4 V

Rated value with nominal operating cell temperature (STC: 800 W/m², 48°C, spectrum AM 1,5)

Specifications	PX 200	PX 210	PX 220	PX 230	PX 240	PX 250
Nominal power	142 W	149 W	156 W	163 W	170 W	178 W
Rated current	5.52 A	5.69 A	5.92 A	6.16 A	6.36 A	6.54 A
Rated voltage	26.1 V	26.6 V	26.8 V	26.9 V	27.3 V	27.5 V
Short circuit current	6.16 A	6.32 A	6.56 A	6.64 A	6.89 A	7.13 A
Open circuit voltage	32.4 V	32.7 V	32.9 V	33.2 V	33.5 V	33.7 V

Photovoltaic Modules AS Series



MERKUR AS Series made by Sunset

Based on many years of experience in solar applications, **MERKUR** makes a significant contribution to a ground breaking progress in solar technology.

As a result of our long term experience, we are using the AS series, a photovoltaic module with mono crystalline cells. The AS series is designed for applications with high power requirements. These outstanding modules produce a continuous and reliable yield, even under extreme conditions. The modules of the **MERKUR AS Series** made by Sunset are suitable for on-grid and special off-grid applications.

- 36 high-performance mono crystalline silicon solar cells with an efficiency up to 19%
- Textured cell surface for particularly high electricity yields
- Use of tempered white high resistant solar glass, EVA plastic, and weather protection, as well as an anodised aluminium frame for long-term use
- Manufactured under German quality standards

- Also applied for the roof and field mounting system at the plant.

Over the years **MERKUR Solar** made by sunset has set high benchmarks with its high quality standards.

Continuous tests guarantee a consistently high level of quality. Every module undergoes visual, mechanical, and electrical inspections. Each module will be HV-tested and examined by electro luminescence This is recognisable by our guarantee:

- 5 years product warranty
- 10 years linear performance warranty for a power output of 90%
- 25 years linear performance warranty for a power output of 80%
- Detailed warranty conditions and additional information can be found in our warranty terms
- Certified according to IEC 61215 and IEC 61730

Photovoltaic Modules AS Series

Technical specifications PX Series

- Protection class II
- System voltage: 1000 V
- Reverse current: 15 A
- Temperature coefficient: $I_{sc} + 0.053 \%/K$
- Temperature coefficient: $V_{oc} - 0.32 \%/K$
- Front covering: 4 mm solar glass
- Back covering: multi layer foil
- Type of cell: mono crystalline
- Protection class: junction box IP 65
- Cable connection: multi Contact MC4 or compatible
- Weight: 11.7 kg
- Dimensions: 1480 x 660 x 40 mm
- HL-test: 5400 Pa

Peak power under test conditions (STC: 1000 W/m², 25°C, spectrum AM 1,5)

Specifications	AS 120	AS 130	AS 140	AS 150
Nominal power	120 W	130 W	140 W	150 W
Rated current	7.25 A	7.50 A	7.75 A	8.08 A
Rated voltage	16.5 V	17.2 V	18 V	18.5 V
Short circuit current	7.80 A	8.10 A	8.40 A	8.7 A
Open circuit voltage	21.0 V	21.4 V	21.8 V	22.2 V

Rated value with nominal operating cell temperature (STC: 800 W/m², 48°C, spectrum AM 1,5)

Specifications	AS 120	AS 130	AS 140	AS 150
Nominal power	85 W	93 W	100 W	107 W
Rated current	5.80 A	6.00 A	6.20 A	6.46 A
Rated voltage	14.85 V	15.5 V	16.2 V	16.7 V
Short circuit current	6.24 A	6.48 A	6.72 A	6.96 A
Open circuit voltage	18.9 V	19.3 V	19.6 V	20.0 V

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