



5 KW 48V OFF-GRID Completed PV Package (Island system)

Autonomous power supply with photovoltaic 48V battery system for 230V consumers

Powerful photovoltaic package for autonomous power supply, independent of the public electricity grid. Material offer supply without installation.

The package consists of high-quality state of the art photovoltaic components from famous manufacturers that are perfectly matched to one another.

The technical system design has been developed by German engineers based on many years of practical experience.

The system's intelligent energy management is based on continuous technical communication between the essential components. In addition, monitoring can be provided as WLAN (Wifi) or GPRS (mobile phone SIM card). High system efficiency leads to long-term and reliable high-power returns.



PHOTON SOLAR – completed PV package - optimally matched components, everything from one source:

- Photon Solar PV panels - Made in EU
- Photon Solar PS-5000/48 Hybrid/Island inverter with integrated solar charge controller
- German brand, German engineering, system design and supply from Germany
- PV panels cabling
- roof-top assembly as package standard, other mounting systems available upon request.
- Solar batteries (48V system)
- Customized Battery cable set with fuses
- Parallel operation to the public power grid or external generator possible.
- Off-grid: Uninterruptible power supply UPS / Island system
- **Top:** This system can be used in parallel connection with other systems of the same 5KW inverter type up to max. 6 x 5 KW = 30KW (3-phase)
- **Top:** Power app – internet monitoring via WLAN / Wifi or GPRS
- System design and quality control from Germany
- PHOTON SOLAR - Supply from Germany (delivery address Germany = free delivery), delivery abroad plus freight charges.

PHOTON SOLAR PV Panels – Made in EU



PHOTON SOLAR PV Inverter & Solar Controller





Off-Grid PV Package: 5 KVA/ 4.2 KWp/ 10.8 KWh - 48V System
Stand-alone / Island system - energy storage can be expanded
Top: Parallel Connection up to 6 systems x 5KW = 30KW (3-phase) possible
Top: WLAN or GPRS power app – internet monitoring

4.2 KWp PV – panel type PHOTON SOLAR SC-280P-60 - Made in EU (1640 x 992 x 40 mm), 15 x 280W+ poly crystalline PV panels, premium quality, saltwater-resistant, optimal panel type for hot climate areas, Made in the EU, 30 years performance guarantee.

PHOTON SOLAR PS-5000/48 - Hybrid / Island Solar Inverter & integrated charge controller
 5 KW AC power / continuous load (10 KW short-term peak power / maximum load), 1-phase, parallel connection with other systems (e. g. 6 x 5KW, 3-phase) possible, designed for 230V consumers alternating current, 50/60 Hz, input for public grid or external generator, communication (monitoring) via USB. Overvoltage protection, deep discharge protection, overcharge protection.

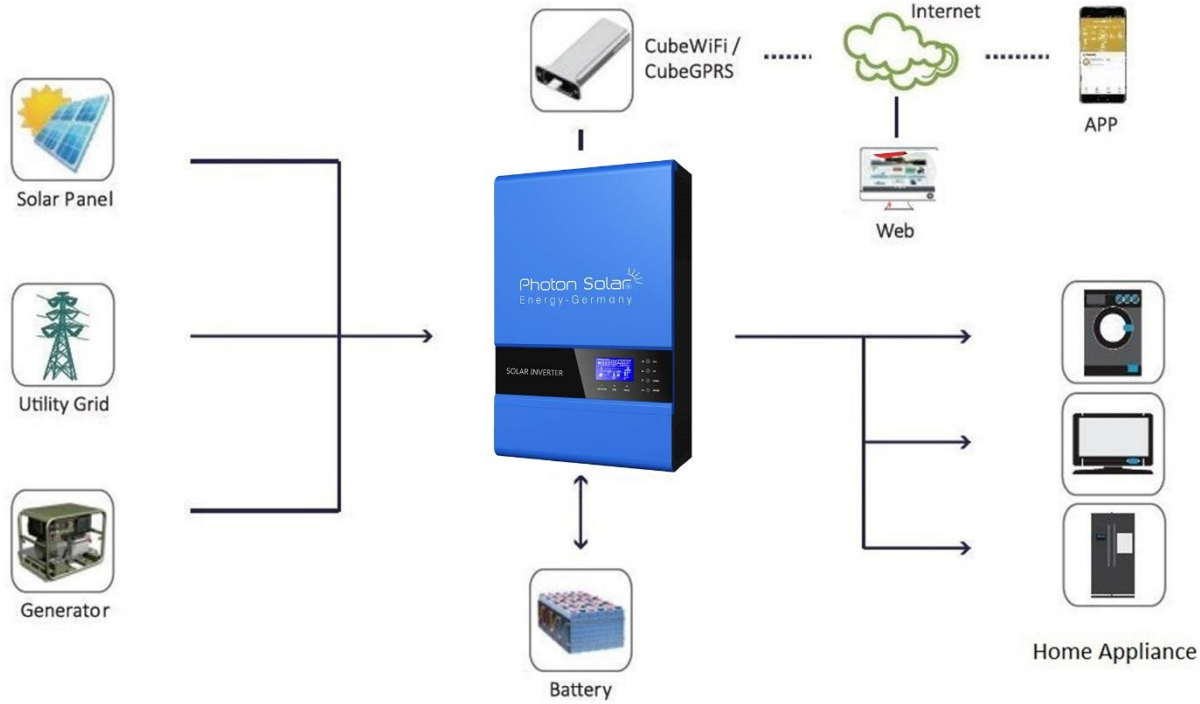
PV charge controller, optimally designed for PHOTON SOLAR PV panels

Roof-top assembly for PV panels installation
 Roof-parallel, aluminum profile pieces with module clamps and roof connectors for standard roof (tile or metal roof). Optionally with roof hooks, hanger bolts or hat profile holders. Other assembly type (e. g. flat roof or ground mounting) against extra charge.

PV wiring set (DC):
 PV wire with MC4- and Y-connectors and string-protection-box (for parallel wiring)

48 V energy storage (lead gel or AGM solar batteries),
 → 4 x 12V/225Ah C20 (2.7kWh) = 10.8 kWh battery capacity (= 1 set)
 1 battery set contains: 1 x battery fuse 200A, 1 x electrical battery cable kit with battery cable lugs, deep discharge protection of the batteries: usable capacity 50%, the system can be extended with additional battery sets of 4 battery units each: E. g. 10.8kWh + 10.8kWh + 10.8kWh etc.....

Including free delivery inside Germany:
 We deliver package components to any delivery address in Germany free of charge (e. g. shipping agent address at seaport of Hamburg, Germany). In the case of delivery to foreign country, additional transport costs and export document fees will be charged.





The system is designed as an efficient 48V system with the highest possible efficiency and can be expanded as required with additional batteries. The battery set is protected by a depth-of-discharge (DOD) protection at 50% of the capacity, to maintain maximum cycle frequencies and long-life battery use. The free battery capacity above the determined level of discharge protection is the available capacity for consumption. Doubled peak load: The inverter can take twice the power of the electrical loads for a short time.

The components compiled in this package data sheet correspond to the basic standard package version for an autonomous 48 V system. Depending on individual needs (electricity consumption) and local conditions (location), an extension with more or upgrade components may be required at extra charge.

For more details, please refer to the separate PV panel and Inverter solar controller data sheets.

Individual extras - extension or adaption of the standard package:

Note:

Material supply only. Offer without installation. Standard package without claim to completeness. Due to local circumstances, deviating or additional material may be required at extra charge.

Warning: Danger of life and fire in case of improper connection!

This PV package must be connected by a professionally trained and certified electrician who carries out the electrical connection in accordance with the legal requirements of the respective country.

Parallel Connection (1-phase / 3-phase)

This system can be connected parallel to other systems of the same type. You can combine up to 6 x 5KW = 30KW (3-phase)

More batteries - higher storage capacity

This system should be connected to 4 pcs 12V lead gel or AGM solar batteries and can be delivered from stock Germany. You can expand your system by 10.8 kWh units. Each battery set contains 4 batteries, customized battery cable set, fuse and cable lugs.

→ 4 x 12V/225Ah C20 (2.7kWh) = 10.8 kWh battery capacity (= 1 set)

Mounting material (PV panel assembly)

This PV package is based on vertically mounted PV panels and contains assembly for a standard roof top (tile or metal roof) with roof connector types of either a) standard roof hooks, b) hanger bolts, c) hat profile holders or d) short alu profiles. In case of your order, please let us know, which type you choose. Mounting material installation guides (manuals) you can find on our website www.photon-solar.eu.

Upgrade material against extra charge:

- Horizontally mounted panels require more material.
- 3-times flexible instead standard roof hooks
- Flat roof assembly south or east/west
- Ground mounting assembly

In case you wish upgrade material, please let us know or complete and return the separate form.

Other PV panels:

This PV package is optimally designed for poly crystalline PV panels of the 60 cell PHOTON SOLAR – Made in EU – series due to optimal voltage. However, this package can also be delivered with mono crystalline PV panels (with higher voltage) against price premium.

How to order:

You can order and buy this completed PV package either directly at PHOTON SOLAR – Germany or through a local distribution and installation partner in your country. In case you order our products from a local partner in your country, please consider additional price costs for sea or truck freight, custom clearance, warehousing, import tax and other import fees.

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