

*phocos*



# Product Selection Guide



[www.phocos.com](http://www.phocos.com)

## Industry Experts

Two decades of experience as a leading provider of reliable, innovative energy solutions has earned Phocos continuous respect from the solar industry. We have proudly grown from being 'Your Off-Grid Partner' to 'Your Any-Grid Partner' as we expand our product offering to meet more energy access challenges in the global market today.

## Global Leader, Local Partner

With our headquarters in Ulm, Germany, we operate four sales, support and R&D subsidiaries and have a network of dependable distributors worldwide. Our commitment to local service and support anywhere in the world makes Phocos much more than a supplier of components and solutions for off-grid systems. It makes us "Your Off-Grid and Any-Grid Partner."

## Rely on Phocos



### Innovative

Leading in advanced technologies for clean, reliable and affordable energy.



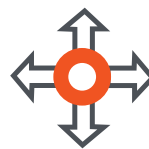
### Cost-Effective

Optimizing features-to-cost ratio to minimize the total cost of ownership.



### Reliable

Setting industry standards in first-class quality and superior reliability.



### Flexible

Providing power products with the flexibility to build optimal Off-Grid, On-Grid or Any-Grid installations.

## Any-Grid™ Applications

Our innovative technologies are used in homes, businesses and industry. Phocos offers a variety of products to support a broad range of Off-Grid, On-Grid and Any-Grid solar power applications.

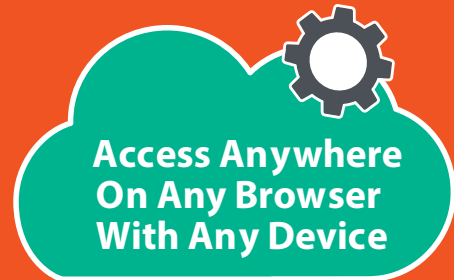


### Residential & Rural Electrification

High-quality energy solutions for locations and populations without access to reliable grid power



## Seamless Reliable Power Anywhere, Anytime, Any-Grid



**NEW** Monitor and Control Your Complete System



### Recreation

Supporting clean, sustainable living on the road, on the water or off the beaten path



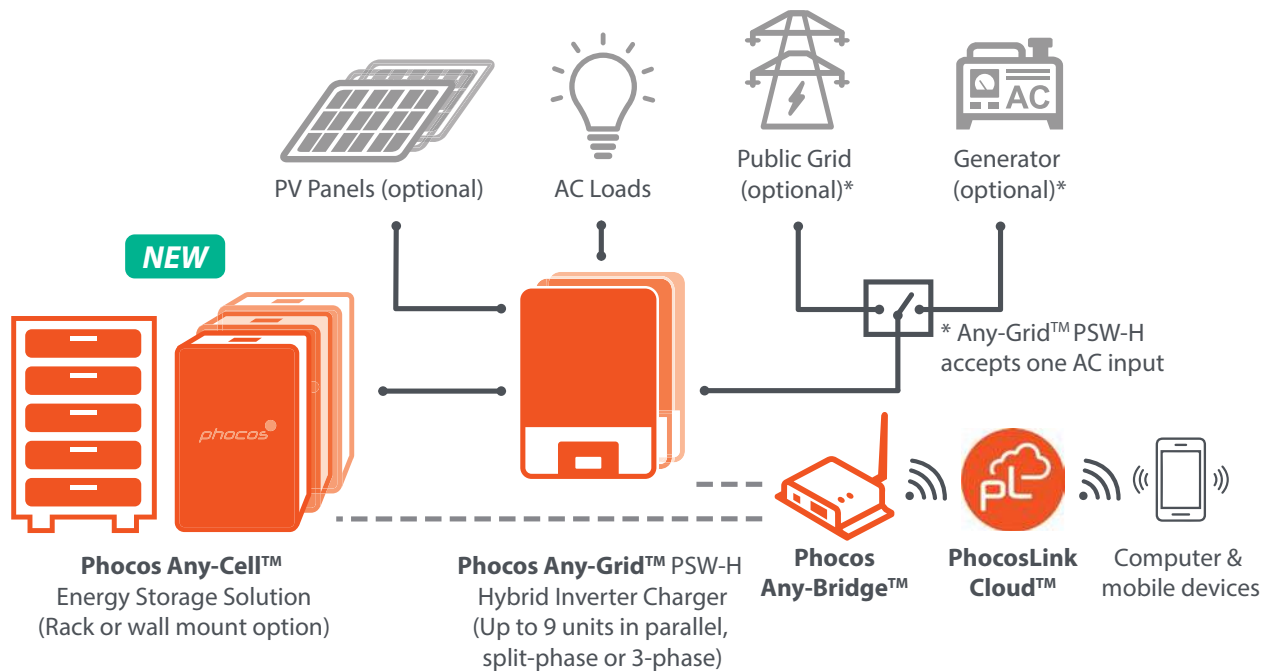
### Solar Lighting

Rugged, efficient and dependable solutions with advanced lighting controls



### Industry

Reliable industrial power for remote monitoring, oil & gas, traffic signals, security and telecom towers



## Any-Grid™ Hybrid Inverter Chargers

### Any-Grid™ PSW-H Hybrid Inverter Chargers

The Phocos Any-Grid™ PSW-H Inverter Charger Series (Pure Sine Wave Hybrid) represents Phocos' most versatile line of inverters/chargers. Flexibility and reliability are key characteristics of this product line, with a strong potential for cost saving opportunities in real world conditions. The Any-Grid PSW-H combines the functionality of an MPPT solar charge controller, inverter, uninterruptible power supply (UPS) and AC battery charger into a single, easy-to-use and simple to install unit. It acts as a power hub to manage multiple energy sources. Models available in 230 and 120 Vac.



Any-Grid PSW-H

### Product Features

- 3 kW, 5 kW, 6.5 kW or 8 kW output power per model, with integrated AC battery charger
- Integrated high-voltage 80 A MPPT charge controller
- Charge controller can function even if inverter is turned off to keep batteries fully charged
- Compatible with Lithium batteries
- Detachable display / communication unit with 6 LEDs and an intuitive LCD screen
- High level of connectivity: BLE, USB-OTG (on-the-go), CAN Bus, RS-485, RS-232, relay for generator start
- Up to 9 units connectable in parallel, split-phase or 3-phase for 85.5 kW of synchronized AC power
- Datalogger with up to 60 days of data storage
- Uninterruptible power supply functionality due to 10 ms switching time (typical, UPS mode) in case of grid blackout



# Any-Grid™ Battery Inverter Chargers



## Any-Grid™ PSW-B Battery Inverter Charger

- 0.5 kW, 1 kW, 1.6 kW or 3 kW output power per model
- Flexible, advanced features with options to solve many common challenges in the field
- Integrated MPPT charge controller and AC battery charger
- Charge controller functions even if inverter is turned off to keep batteries fully charged
- Compatible with Lithium batteries
- Display unit with 3 LEDs, 3/4 buttons, and an intuitive LCD screen
- RS-232 and USB connectivity
- Common negative and galvanically isolated inverter



Any-Grid PSW-B

**Any-Grid PSW-B Series  
is the most cost-effective entry  
point to all-in-one inverter chargers**

### Power Connections:

- Solar/PV
- Battery
- AC Source
- AC Output



## Any-Grid Inverter Portfolio

Max. Power Ratings			Battery Voltage			Features							
Model	Rated Power	Surge Power (for 5 secs.)	12 V	24 V	48 V	AC Output Voltage	AC Charge Current	MPPT Charge Current	Max. PV Voltage	MPPT Qty.	No Load Power Draw	Battery-Free Mode	Common Terminal (for grounding)
<b>PSW-H: Hybrid Inverter Charger</b>													
PSW-H-3KW-230/24V	3,000 W	6,000 W		•		220~240 Vac	80 A	80 A	450 Vdc	1	<40 W	•	Isolated
PSW-H-5KW-230/48V	5,000 W	10,000 W			•	220~240 Vac	80 A	80 A	450 Vdc	1	<40 W	•	Isolated
PSW-H-8KW-230/48V	8,000 W	16,000 W			•	220~240 Vac	120 A	120 A	500 Vdc	2	< 75 W	•	Isolated
PSW-H-3KW-120/24V	3,000 W	6,000 W		•		110~127 Vac	80 A	80 A	250 Vdc	1	<40 W	•	Isolated
PSW-H-6.5KW-120/48V	6,500 W	13,000 W			•	110~127 Vac	120 A	120 A	250 Vdc	2	<58 W	•	Isolated
<b>PSW-B: Battery Inverter Charger</b>													
PSW-B-0.5KW-120/12V	500 W	1,000 W	•			110~127 Vac	20 A	40 A	100 Vdc	1	<15 W		Isolated
PSW-B-1.6KW-120/24V	1,600 W	3,200 W		•		110~127 Vac	60 A	60 A	145 Vdc	1	<37 W		Isolated
PSW-B-1KW-230/12V	1,000 W	2,000 W	•			110~240 Vac	20 A	40 A	100 Vdc	1	<15 W		Isolated
PSW-B-3KW-230/24V	3,000 W	6,000 W		•		110~240 Vac	60 A	60 A	145 Vdc	1	<37W		Isolated

**Remote System Monitoring Available  
using the Any-Grid PSW-H and Phocos Any-Bridge AB-PLC-CAN**

**NEW**

## What is Any-Cell™?



The Phocos Any-Cell™ is a compact and modular Lithium energy storage system that complements the Any-Grid™ hybrid inverter series to allow energy to be stored on site regardless of charging resources available. Combining Phocos Any-Cell energy storage with Any-Grid hybrid inverters and Any-Bridge remote monitoring provide seamless integration between power conversion and energy storage while optimizing the use of locally available energy resources. Any-Cell represents the latest in Phocos innovation, showcasing our commitment to provide flexible energy access solutions **Anywhere, Anytime, Any-Grid™.**

## ESS-L-5kWh-48V

### Product Features

- Compatible with select third-party inverters\*
- Seamless integration with Phocos Any-Grid portfolio
- Safe, maintenance-free, LiFePO4 / LFP Chemistry
- Advanced Battery Management System
- Compact, high efficiency form factor
- Modular, scalable up to 8 batteries in parallel
- Wall or Rack mount
- High efficiency and low resistance
- High charge / discharge rate

\*Only available from stock in Tucson, AZ and Bubesheim, Germany. Contact our sales team for more information.

### Technical Data

Type	ESS-L-5kWh-48V
Chemistry	LiFePO4 / LFP
System Voltage	48 Vdc
Capacity (kWh)	5.12 kWh
Capacity (Ah)	100 Ah
Cycle Life (@ 25 °C)	> 6,000 Cycles @ 90% DoD
Mounting	Wall or rack mount (wall mount hardware included)
Certifications	UL 1642, UL1973, IEC 62619, UN38.3, CE, RoHS
Weight	56 kg / 123.5 lbs
Dimensions (WxHxD)	440 x 595 x 172 +/-2 mm / 17.3 x 23.4 x 6.8 in (without bracket)
Warranty	10 years



**Now With  
Third-Party  
Inverter  
Compatibility**

Any-Cell ESS-L

**Any-Cell provides  
seamless integration  
between  
Phocos power  
conversion products  
and energy storage**

## Optimizing Energy from PV Arrays

Our MPPT (Maximum Power Point Tracking) and PWM (Pulse Width Modulation) solar charge controllers are designed with an optimal feature-to-cost ratio to minimize total cost of ownership of the off-grid system.

### Our models offer these advantages:

- **CML:** Designed for rural electrification and mobile device charging
- **ECO:** Compact size and economical choice for low-power industrial applications
- **CXN:** Advanced features and intelligence for industry and lighting applications
- **CIS:** Built for the harshest environments with advanced lighting control features

## MPPT Solar Charge Controllers

Max Solar Ratings				Battery Voltage				Features						
Model	Current	Voltage	Power	12V	24V	36V	48V	Potted	Data Logging	Low Voltage Disconnect	Grounding	Lighting Control	Dimming	LED Driver
<b>ECO: Compact size and economical choice for low-power industrial applications</b>														
ECO-N-MPPT 85/15	15A	85 Voc	250W/500W	•	•			•	•	•	NEG			
<b>CIS: Built for the harshest environments with advanced lighting control features</b>														
CIS-N-MPPT 85/15	15A	85 Voc	225W/450W	•	•			•	•	•	NEG	•	•	
CIS-N-MPPT 100/30	30A	95 Voc	450W/900W	•	•			•	•	•	NEG	•	•	
CIS-N-MPPT-LED	15A	85 Voc	225W/450W	•	•			•	•	•	NEG	•	•	•

## PWM Solar Charge Controllers

Max Solar Ratings				Battery Voltage				Features								
Model	Current	Voltage	Power	12V	24V	36V	48V	Potted	LCD	USB Charger	Data Logging	Low Voltage Disconnect	Grounding	Lighting Control	Dimming	LED Driver
<b>CML: Designed for rural electrification and mobile device charging</b>																
CM04	4A	30V	70W	•									POS			
CM10	10A	30V	175W	•									POS			
CML-USB-10	10A	30V/50V	175W/350W	•	•					•		•	POS			
CML-USB-20	20A	30V/50V	350W/700W	•	•					•		•	POS			
<b>ECO-N: Compact size and economical choice for low-power industrial applications</b>																
ECO-N-10	10A	30V/50V	175W/350W	•				•				•	NEG			
ECO-N-10-T	10A	30V/50V	175W/350W	•	•			•				•	NEG			
ECO-N-20-T	20A	30V/50V	350W/700W	•	•			•				•	NEG			
<b>CXN: Advanced features and intelligence for industry and lighting applications</b>																
CXNup-10	10A	30V/50V	175W/350W	•	•				•	•	•	•	NEG	•		
CXNup-20	20A	30V/50V	350W/700W	•	•				•	•	•	•	NEG	•		
CXNup-40	40A	30V/50V	700W/1400W	•	•				•	•	•	•	NEG	•		
<b>CIS: Built for the harshest environments with advanced lighting control features</b>																
CIS-N-10	10A	30V/50V	175W/350W	•	•			•				•	NEG	•	•	
CIS-N-20	20A	30V/50V	350W/700W	•	•			•				•	NEG	•	•	
CIS-N-LED-1050	20A	30V/50V	350W/700W	•	•			•				•	NEG	•	•	•
CIS-N-LED-1400	20A	30V/50V	350W/700W	•	•			•				•	NEG	•	•	•
CIS-N-LED-2800	20A	30V/50V	350W/700W	•	•			•				•	NEG	•	•	•

# Phocos Group



## Americas USA

## EMEA Germany

## SAARC India

## APAC China

**Phocos Americas, Inc.**  
325 S. Euclid Ave., Ste. 101  
Tucson, AZ 85719 USA  
Phone +1 520 777-7906  
info.na@phocos.com  
www.phocos.com

**Phocos AG**  
Magirus-Deutz-Str. 12  
89077 Ulm Germany  
Phone +49 731 9380688-0  
Fax +49 731 9380688-50  
info@phocos.com  
www.phocos.com

**Phocos India Solar Pvt Ltd.**  
Plot No. 201 - 203, 231 & 233  
AR Nivas, Navayuga Nagar  
Pattanur, Vanur TK, Villupuram - 605 111  
Tamil Nadu, India  
Phone +91 (0) 413 2972328  
info-india@phocos.com  
www.phocos.com

**Phocos China Ltd.**  
Room 1304, Qingdao International  
Shipping Center,  
No.66 Lianyungang Road,  
Qingdao 266034, China  
Phone +86 532 83837020  
info-china@phocos.com  
www.phocos.com



Version: 2024-07-25

Subject to change without notice