

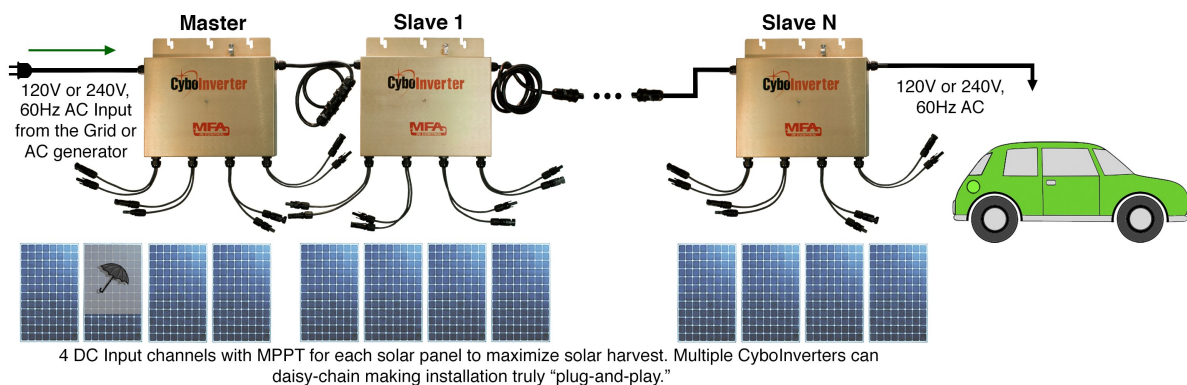


*News Release*

## **CyboEnergy Introduces Patented Battery-Less Off-Grid Solar EV Charging Solution**

January 2, 2023 – CyboEnergy, Inc. (Rancho Cordova, CA) announced today that the company is introducing a battery-less off-grid solar EV charging solution. This unique electric vehicle (EV) charging solution is based on CyboEnergy’s AC assisted off-grid solar inverter technology, which is protected by CyboEnergy’s patent portfolio, including US Patent 11,258,267, “Off-Grid Solar System with Assisted AC Power”.

CyboEnergy CEO, Dr. George Cheng said, “The world is entering a disruptive transition from fossil fuel based transportation to electricity based transportation. For EVs to become mainstream, there are a number of hurdles ahead. EV charging is likely the most critical issue to address. In my view, EV charging is not just about the battery technology, the number of EV charging stations available, and the EV charging speed. It is about where can we get all that needed electricity? Imagine this: we need to convert all the gasoline used to fuel the cars to electricity, and then use the electricity to charge the EVs. The amount of electricity required to charge hundreds of millions of cars is astronomical. Our current electrical infrastructure can barely support a portion of this requirement. Solar EV charging will then have a huge market potential.”



CyboEnergy is offering a patented battery-less off-grid solar EV charging solution as illustrated in the above diagram. The system includes one AC assisted off-grid master inverter on the left and one or multiple slave inverters, all daisy-chained or connected via an AC bus. The electric grid or an AC generator can provide needed AC power to the system through the AC input port of the master inverter. This way, the off-grid solar system can provide EV charging 24/7 in solar only mode, AC input power mode, or combined power mode. For example, one master inverter and three slave inverters with 16 solar panels can provide up to 5KW AC power for EV charging.



For solar EV charging, there are several technical approaches as summarized in the following table.

| No. | Type   | Voltage and Power  | ROI   |
|-----|--|--|---|
| 1   | Utility Scale Energy Storage Systems                   | High DC and AC voltage and high power.                       | Need large investment in land, equipment, batteries, etc.                             |
| 2   | Residential and Small Commercial On-Grid Solar Systems | Typically low DC and AC voltage. Small to mid size in power. | ROI is dependent on the local net-metering policy. Energy storage is likely required. |
| 3   | Battery-Less Off-Grid Solar Systems                    | Low DC and AC voltage. Small to mid size in power.           | No batteries. Lowest in cost. Modular and scalable. No on-grid solar contract needed. |

Utility Scale Energy Storage Systems use high voltage and high power PCS (power conversion systems) to charge and discharge a large amount of energy storage batteries. This system can also be used for EV charging. CyboEnergy’s battery-less off-grid solar systems can start and run EV chargers 24/7 with consistent performance under solar and load variations. It has many unique features and advantages including: (1) distributed power system design allowing the use of a smaller number of solar panels and inverters, (2) scalable and modular with multiple sub-systems, (3) “plug-and-play” installation, and (4) lowest in cost and maintenance with no batteries.

Dr. Cheng added, “All future apartments, hotels, shopping centers, and office buildings will need to offer EV charging. Those that do not will be at a disadvantage. However, installing AC based EV charging systems may require large capital investments and could also incur costly AC peak power demand charges. With the unique features and benefits, our battery-less off-grid solar EV charging solution is ideal for those places. The solution can make a big impact on the transition from gasoline-fueled cars to electric vehicles.”

### **About CyboEnergy**

CyboEnergy Inc., located in California, USA, is an affiliate of CyboSoft, General Cybernation Group Inc., focusing on the development, marketing, and servicing of product lines in the clean energy field. CyboEnergy received the Frost & Sullivan’s 2013 Global Product Differentiation Excellence Award for Solar Inverters and Frost & Sullivan's 2017 Global Solar Inverter Technology Innovation Award. For more information, please contact: CyboEnergy, Tel: (916) 631-6313, e-mail: Josh Bear, JBear@cybosoft.com, Web site: www.cyboenergy.com.

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