



News Release

CyboEnergy Introduces the World's First AC Assisted Off-Grid Solar Inverters

September 6, 2018 – CyboEnergy, Inc. (Rancho Cordova, CA), the developer of the world's first solar power Mini-Inverter that possesses the key merits of both central inverters and microinverters, announced today that the company has developed a family of AC assisted off-grid CyboInverters that can run almost any kind of AC loads including air-conditioners, refrigerators, EV chargers, pumps, motors, appliances, lights, fans, TV, computers, etc., without batteries. New product spec sheets are downloadable from www.cyboenergy.com.

CyboEnergy CEO Dr. George Cheng said, "This is a game-changing product that allows a battery-less off-grid solar system to start and run heavy loads 24/7 with consistent performance under DC and AC power variations and load changes. It is well suited for areas such as California, Hawaii, Europe, and Caribbean Islands where electricity is costly, yet on-grid solar is no longer welcomed due to grid capacity limitations."



The above diagram illustrates an AC assisted off-grid solar system with two AC assisted offgrid CyboInverters, where a master unit is daisy-chained with a slave unit to form a 2.4KW system. The system has 3 operating modes. (1) In the grid AC only mode, the input AC from the grid can run the AC loads directly, when the inverters are not even turned on. For instance, when the inverters are down at night, the AC loads can operate normally with the grid power. (2) In the solar only mode, the AC input port of the master inverter is not connected to the grid or the grid is down. In this case, the inverters will work like regular off-grid CyboInverters. (3) In the combined power mode, the AC power generated by the inverter is combined with the input power from the grid, and the combined power runs the AC loads. In this case, solar production is maximized and grid power





consumption is minimized. If there is more solar power than the AC loads need, the system will not consume any grid power, and the inverters will not send any power to the grid.

CyboEnergy is well known for its unique battery-less off-grid solar inverters. Although these inverters can work most of the time under sunlight variations, the performance is still dependent on the available DC power. They will not operate in the evening and may not be able to run the loads on rainy or cloudy days. The new AC assisted off-grid CyboInverters overcome these challenges and will provide good performance under DC and AC power variations and load changes.

The following table lists the AC assisted off-grid CyboInverters with different AC standard around the world. CyboEnergy is taking pre-orders for these products and expects to ship during the 4th quarter of 2018.

Туре	Model	AC Output	Region
Off-Grid	CIM-1000Na	120V, 60Hz	USA, Canada, Mexico
Off-Grid	CIM-1000Sa	220V, 50Hz	China, Most Asian Countries
Off-Grid	СІМ-1000Та	230V, 50Hz	Europe, India, Most African Countries
Off-Grid	CIM-1000Wa	220V, 60Hz	Brazil, Peru, Philippines, Saudi Arabia

The AC assisted off-grid CyboInverters include the following features and benefits: (1) can run AC loads with solar power only, grid power only, or combined power; (2) require no batteries; (3) have panel level MPPT to maximize solar production; (4) can start heavy loads with assisted AC power and run the loads with only solar power; (5) avoid all the headaches of an on-grid solar system, and (6) are easy to install with great ROI.

In addition to manufacturing and servicing CyboInverters on the global market, CyboEnergy also offers technology licensing, assembly, or private label opportunities to its strategic partners for certain market segments and geographical areas.

About CyboEnergy

CyboEnergy is a subsidiary of CyboSoft, focusing on development, manufacturing, marketing, and services of product lines in the renewable 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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