



Biosirus

Cybo

On/Off Grid Solar-Hybrid Inverter Systems Scalable Pico/Nano/Micro Grid Solutions

Application:

- Scalable Systems: 300W-1.2KW units (higher power – easy daisy chained)
- For Lights, Fans, TV, PC, Chargers, Refrigerators, Food Processors, Small Appliances
- Grid-Tie or Standalone Off-Grid Models
- Benefits of standard AC components/appliances (wires, switches, equipment)
- Residential, Apartments, Condos, Townhouse complexes, Schools, Small Shops
- Rural: Villages, Irrigation, Threshing/Grinding Mills, etc., Hot/Boiled water



Features:

- 1.15 KW Unit (4 x 300W DC inputs); Individual MPPT; Pure Sinewave Output
- Configurations: 100/110/120V; 220/230/240V; 50/60 Hz.;
- Ambient Temp: -40 to +65 deg C
- Solar or Battery auto-detection; Battery overcharge protection
- High Efficiency (Peak Eff. 96%; MPPT Tracking 99%); Long Life
- Built-in DC Ground Fault Detector/Interrupter



How Does it Work:

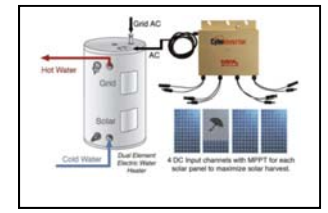
- Aluminium enclosure; About 6.5 Kgs (14 Lbs);
- Natural Convection Cooling; No Fan; Potted
- Compatibility: 60-Cell/72-Cell PV Solar Panels / 48V Battery (VRLA/AGM/LiON)
- Enclosure Environment: Outdoor – NEMA 6 / Transformer Isolated Circuits
- Safety/EMC Compliance: UL1741 and IEEE1547 (E113426), FCC Part 15 Class A



Technical Data:

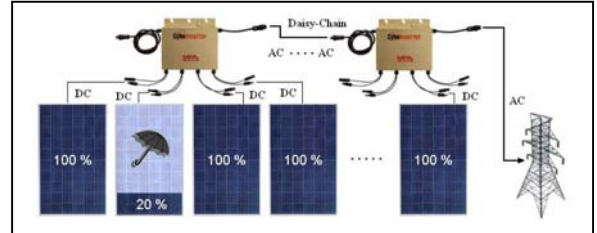
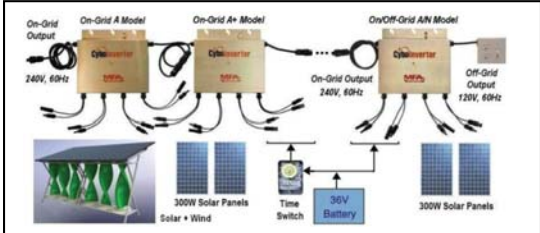
DC Input (per Channel):

- Recommended Input Power: Solar **250-330W**; Battery: **48V, 50AH++**
- Operating Input DC Voltage Range: Solar: **15-58V DC**; Battery: **47-58V DC**
- Peak Power Performance Range: Solar: **30-58V DC**; Battery: **48-58V DC**
- Max. Input DC Voltage/Current: **58V, 9.0A** (for both solar or battery)
- Max. Input Power/Channel: **300 W**; Min. Starting Voltage: Solar: **20V DC** / Battery: **47V DC**



AC Output:

- Rated Output: **960 W**; Peak Output **1,150 W**
- Start-up Surge Power (12 Seconds): **1500W** (Max Surge DC Power = 400W per Channel)
- Nominal Output Current: **4.17 A** (rms) (230/240V); **8.0 A** (rms) (110/120V)
- Nominal Output Voltage: **230/240V** (211-264V single phase); **120V** (108-132V single phase)
- Nominal Frequency: **50Hz.** (49.5 – 50.5 Hz); **60Hz.** (59.5-60.5 Hz); Power Factor: **>0.95**
- Motor Starting: OK for BLDC /DC drives; AC drives may require soft-start depending on battery size.

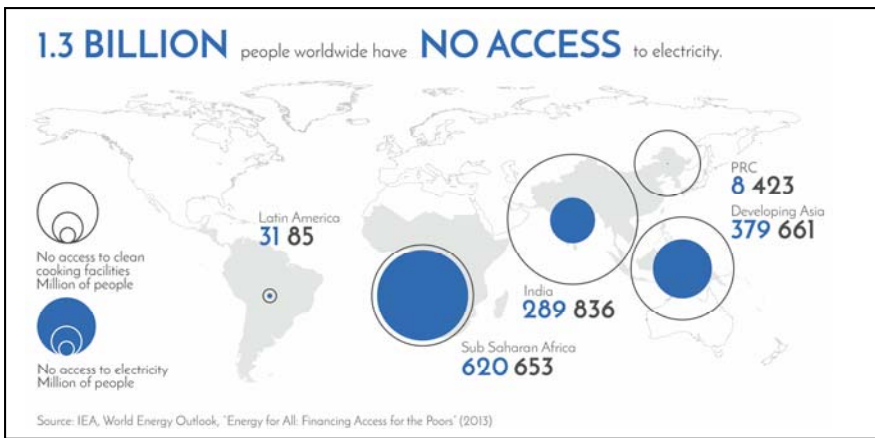


Tech Talk: Flexibility / Scalability / On/Off-Grid Power systems

Globally, 1.1 billion people have no access to electricity. In other places, electricity is very unreliable often available for only few hours a day. A sizeable rural load (as high as 50-70%) is often irrigation and bore well pump sets. DC microgrids have many limitations in providing services beyond a few LED lights and cell-phone charging. Often the 12V system is limited by cable lengths of a few metres. There are very few appliances that run directly on DC. Lastly, there are no DC standards yet for such applications and very few components duly rated for DC.

Our inverter combines the best of both; a scalable DC input source that is tied to a standard AC delivery mechanism with useable with everyday appliances. All parts are available and most electricians are trained on such AC systems. *This total cost is the cheapest. It is capable of supporting economic development opportunities such as pumps, fans, motor-loads, grinders, water heaters, etc.*

Better still, our inverter is so standardised in its architecture, that it can be configured across multiple sources (solar, battery, wind, other) for increased power, can be grid-tied by configuration and configured for remote/off-grid applications as well. In special design, the grid-tied systems can operate in limited capacity as an off-grid system when the grid is lost.



And Savings Too:

The cost of running diesel generation, or bringing distribution wires or transporting fuel to remote sites is prohibitively high. In such cases our system provides good value. Others are grid power displacement/back-up.

Best Value Applications:

- Diesel displacement applications (remote, back-up or unreliable systems)
- Remote military applications (forward bases and remote camps)
- Economic development in rural communities with no access to electricity

Parameters	Platinum Savings	Gold Savings	Silver Savings	Bronze Savings
High Tariff Rate	*****	****	***	**
Diesel dependency	*****	****	***	**
Off-Grid / Remote locations	*****	****	***	**
Electricity Tariff (US\$/kWh)	> 1.40	1.00	0.80	0.60
Pump/Motor loads (KW)	5 kw	3-4 KW	1-2 KW	< 1KW
Variety of Home Appliances	5+	4+	3+	2+
Typical Pay back (simple ROI)	2 Years	3 Years	4 Years	6 Years

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Typical Applications



Call us for any details
or a trial project

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