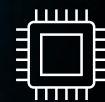




# HYDRO



**Smart Generator  
&  
Energy Storage**



Smart  
Computer

Battery  
Inverter



Solar  
Inverter

Iron  
battery

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

**9** TIMES MORE POWER  
**3** TIMES LESS COST



### A COMPLETE ENERGY GENERATOR SOLUTION

HydroESS technology is the evolution of the solar generators & solar batteries. Our design was made so that you can integrate multiple sources of energy to power your home or business in the safest, most durable and cost-effective way. A fully integrated system with batteries, solar inverter, battery inverter, AGS, switches, touch screen display, operative system and smart computer. HydroESS disappears most external components and reduces the costs of programming and installation. HydroESS is a remote and automated system that does not require maintenance.

# HYBRID, DAILY EXPORT & ZERO EXPORT FUNCTIONS

#### MULTI TASKING FUNCTION:

Manage all the power at the same time of solar, batteries, grid, generator, wind and loads

#### AC COUPLE FUNCTION:

Compatible with generators and others AC energy sources

#### ON-GRID FUNCTION:

Say goodbye to your electric bill exporting your energy to the grid

#### ZERO EXPORT FUNCTION:

Use all your renewable energy without a smart meter

#### TIME OF USE FUNCTION:

Use HydroESS to minimize grid energy usage when its most expensive and recharge when is cheaper

#### SMART POWER FUNCTION:

Setup the high power for off-grid items to run when there is a lot of solar

#### MULTI VOLTAGE FUNCTIONS:

You can use HydroESS for backup your home or your commercial property with 120/240 or 208v three phase site.

#### PLUG & PLAY INSTALLATION

- ✓ Plug & Play
- ✓ Faster installation
- ✓ Prewired system
- ✓ Just few extra components

#### ONLINE MONITORING

- ✓ HYDRO can give you online maintenance
- ✓ Online system monitoring
- ✓ Software update



## HydroPower

4 MPPT + ATS + AGS + Multiple Phase's

Genesis-5k-LV-U

Genesis-8k-LV-U

**HydroPower** bi-directional energy storage inverter is applicable with both on-grid and off-grid PV systems. It can control the flow of energy intelligently. During the day, the PV plant generates electricity which can be provided to the loads, fed into the grid or charge the battery. The electricity stored can be released when the loads require it during the night. Additionally, the power grid can also charge the storage devices via the inverter.

# 25 YEARS

performance warranty



**ENERGY CONTROL**  
Export and Power Control



**SMART INTEGRATION**  
Generator & existing solar support



**ENTIRE EXTENSION**  
Up to 46 solar modules & Up to 16 inverters



**UPS FUNCTION**  
90A automatic transfer switch



**BATTERY LESS**  
Solar side can run without battery and support critical loads



**MICRO-GRID MANAGER SYSTEM**  
Manage all simultaneously, PV + Storage + Grid + Loads + Generator

### BATTERY INPUT DATA

Battery Compatibility	HydroESS   BYD   Pylontech   Lead Acid   Newton   HomeGrid   Pandora   OptimusPower   BlackRock	
Battery Voltage Range (V)	40V-59V	
Max. Charging Current (A)	120A	190A
Max. Discharging Current (A)	120A	190A
Charging curve	3 Stages & Equalization	
External temperature sensor	Optional	
Charging Strategy for Li-Ion Battery	Self-adaption to BMS	

### SOLAR INPUT DATA

Max. DC Input Power (W)	11000W	160000W
DC Input Voltage (V)	370V (100V ~ 500V)	
MPPT Range (V)	120 Vdc – 425 Vdc	
Start-up Voltage (V)	140 Vdc	
Max. Input dc Current (A)	11A+11A	14A+14A
MPPT Numbers	2	
Numbers of Strings per MPPT	2	2

### AC Input / Output

AC Bypass output (Grid or Generator)	8400W (35A)	12000W (50A)
Rated Continuous AC output to the grid (W)	6000W	10000W
AC Output Rated Current(A)	22.9A / 22.9A	36.7A / 36.7A
Peak power (UPS BACKUP)	2 times of rated power, 10 S	
Rated AC Output UPS Power (W)	5000w (20.8A)	8000w (33.3A)
Optional frequency and voltage	50/60Hz; (120VAC / 240VAC / 208VAC / 230VAC)	
Max. AC current(A)	Split phase , 2/3 Phase , Single Phase	
Output frequency and voltage	THD<3% (Linear loading<1.5%)	

### Efficiency

Battery Charge/Discharge Efficiency	96% / 95%	96% / 95%
Max Efficiency	97.6%	97.6%
MPPT Efficiency	99%	99%

### Protection

PV Arc Fault detection	Integrated
PV input lightning protection	Integrated
Anti-islanding Protection	Integrated
PV String Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated
Output Shorted Protection	Integrated
Output Over Voltage Protection	Integrated

### Certifications and Standards

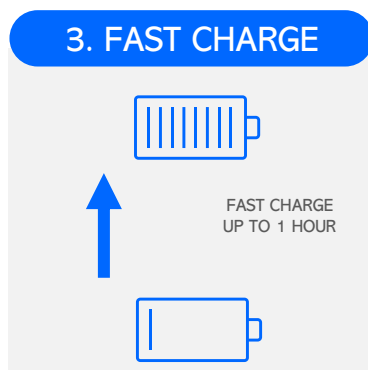
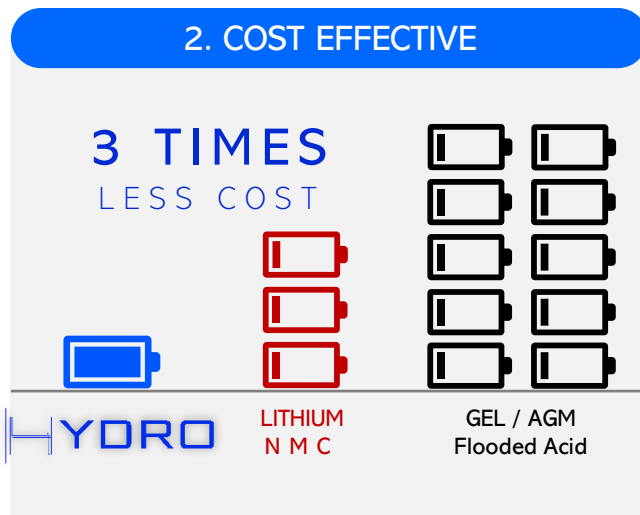
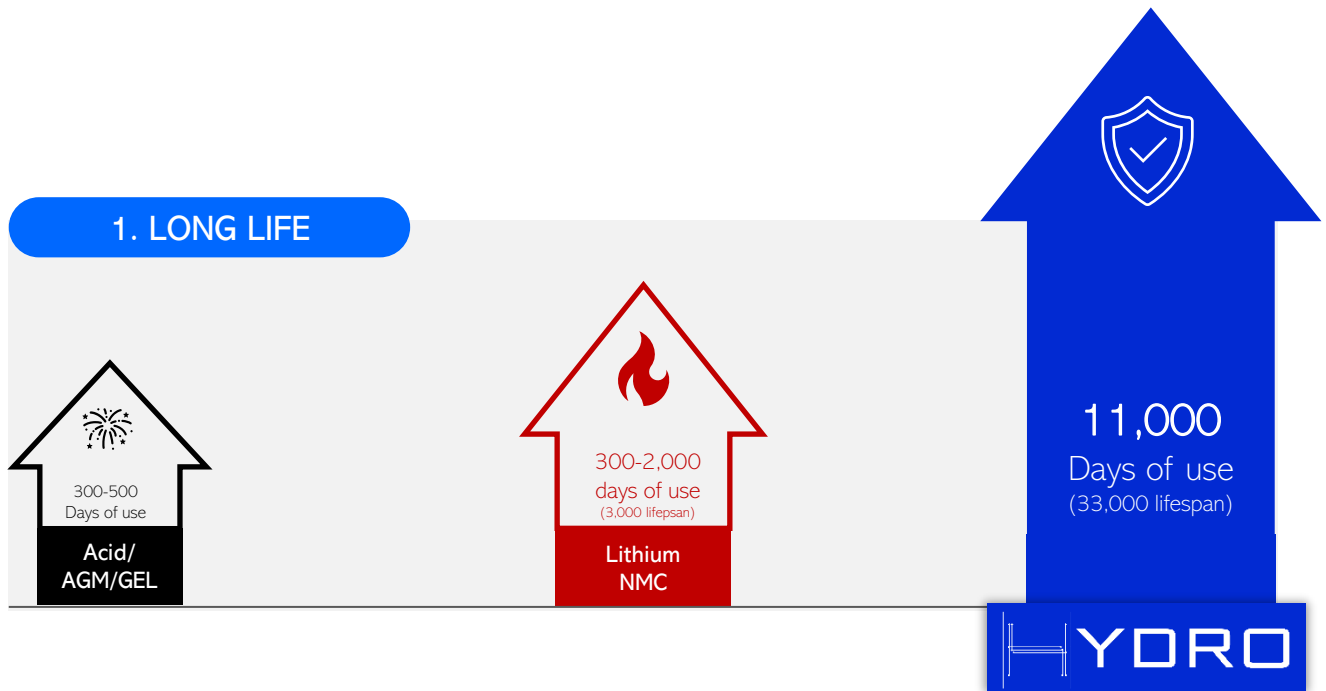
Grid Regulation	IEEE1547, IEEE2030.5, Hawai Rule 14H, Rule21 Phase 1, 2, 3 & VDE-ARN 4105
Safety Regulation	UL1741SA, UL1699B, CSA 22.2, IEC62109-1, IEC62109-2, IEC62040-1
EMC	EN61000-6-1, EN61000-6-3, FCC 15 class B

### General Data

Operating Temperature Range (°C)	-25 ~ 60°C, > 45°C Derating
Cooling Concept	Natural Convection + Fans
Noise (dB)	RackMount <30db / Wallmount <38db
Communication Interfaces	RS485, CAN, WI-Fi, LCD,
Weight (kg)	66 pounds
Size (Width*Height*Depth mm)	Rack mount 680 * 420 * 233mm / Wallmount 530mm x 660mm x 200mm
Protection Degree	Rack mount IP – 20 / Wallmount IP – 65
Installation style	Rack Mount & Wall Mount
Warranty	10 years (extended up to 25 years)

# MORE VALUE FOR LONG TERM MINDSET

LESS COST BY MORE LIFE AND MORE USABLE ENERGY

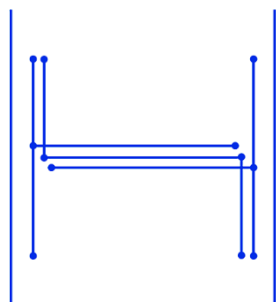


FREE MAINTENANCE

20 YEARS WARRANTY

SAFETY COBALT FREE

<b>Model</b>	HCL-51400	HCL-48120
<b>Cell chemistry</b>	Iron Phosphate (Nontoxic & Fire safe) CATL technology	
<b>Usable Capacity</b>	20 kWh	6 kWh
<b>Depth of Discharge (DoD)</b>	Up to 100%	Up to 100%
<b>Nominal Voltage</b>	51.2vdc	51.2vdc
<b>Operation Voltage Range</b>	44~54	44~54
<b>Max. Charge/Discharge Current</b>	200A	100A
<b>Operating Temperature Range</b>	-10 °C + 50°C*	-10 °C + 50°C*
<b>Scalability</b>	Max 16 parallel connection for 48v units	
<b>Compatible inverters</b>	HydroESS / Genesis / Sol-ark / Growatt / LXP / Goodwe	
<b>Monitoring Parameters</b>	Battery voltage, current, cell voltage, cell temperature	
<b>Communication</b>	CAN and RS485	
<b>Enclosure Protection Rating</b>	IP-55	
<b>Round trip efficiency</b>	99%	
<b>System Weight</b>	165 kg	44 kg
<b>Dimension (W x D x H)</b>	483mm x 685mm x 280mm	400 mm x 609 mm x 266mm
<b>Certifications &amp; Safety standards</b>	UN 38.3 / UL1642 / UL1973 / TUV (IEC62619) / CE / VDE2510	
<b>Application</b>	Grid tie / Backup or Off-Grid (Refer to the configuration list)	
<b>Performance warranty</b>	11,000 cycles to 70% remaining capacity	
<b>Product Warranty</b>	20 years free parts	



# YORO

## A I O P O W E R