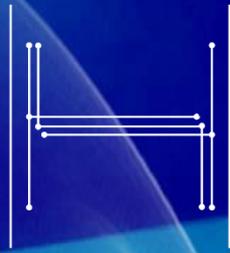


YORO

ESS



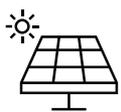
HYDRO

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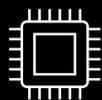
SMART GENERATOR & ENERGY STORAGE

A COMPLETE ENERGY GENERATOR SOLUTION

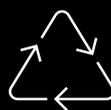
HydroESS technology is the evolution of the solar generators & solar batteries. Our design was made so that you can integrate multiple sources of energy to power your home or business in the safest, most durable and cost-effective way. A fully integrated system with batteries, solar inverter, battery 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.



Solar
Inverter



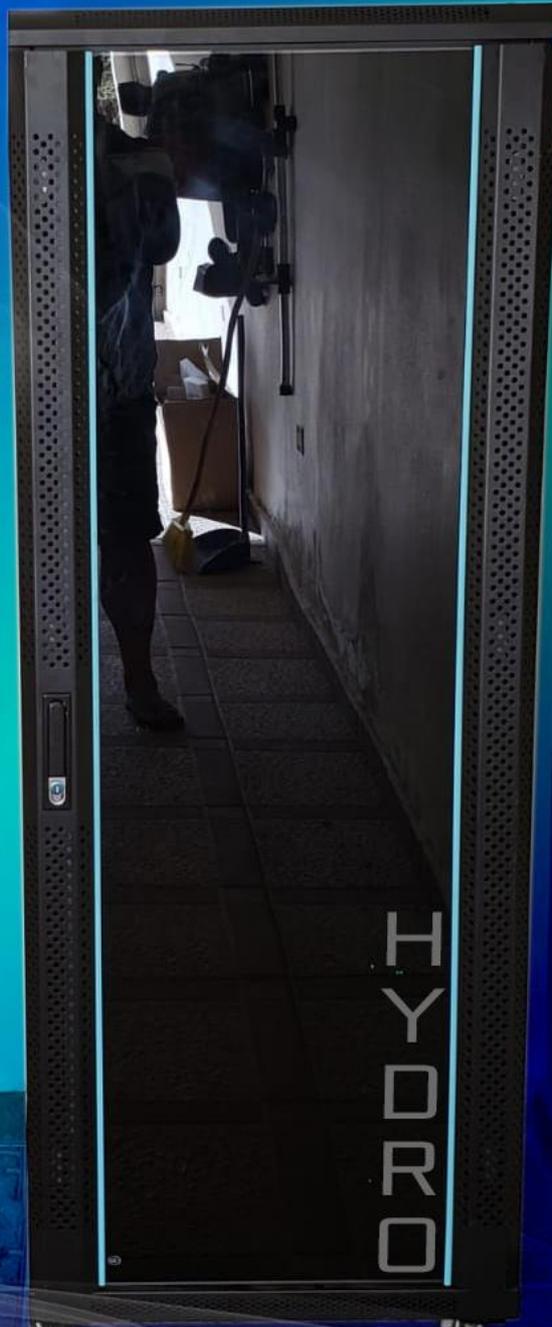
Smart
Computer



Battery
Inverter



Iron
battery



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 HYDRO 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

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

TECHNICAL DATA GENESIS SERIES

BATTERY INPUT DATA

GENESIS-5K-LV-U
SUN-5K-SG01-LP1-US/EU

GENESIS-7.6K-LV-U
SUN-7.6K-SG01-LP1-US/EU

Battery Type	HydroESS BYD Pylontech Fortress Lead Acid WARU Newton Simpliphi	
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)	125 Vdc – 425 Vdc	
Start-up Voltage (V)	140 Vdc	
Max. Input dc Current (A)	11A+11A	18A+18A
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	8700W
AC Output Rated Current(A)	25A / 25A	36A / 36A
Peak power (UPS BACKUP)	2 times of rated power, 10 S	
Rated AC Output UPS Power (W)	5000w (20.8A)	7600w (31.6A)
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	UL1741, IEEE1547, VDE-ARN 4105
Safety Regulation	IEC62109-1, IEC62109-2, IEC62040-1
EMC	EN61000-6-1, EN61000-6-3, FCC 15 class B

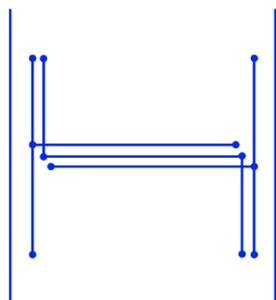
GENERAL DATA

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

HydroESS AIO POWER

TECHNICAL DATA

MODEL	HAP-51300	HAP-48120
CELL CHEMISTRY	Ferrous Phosphate (Nontoxic & Fire safe)	
USABLE CAPACITY	15 kWh	6 kWh
DEPTH OF DISCHARGE (DOD)	Up to 100%	Up to 100%
NOMINAL VOLTAGE	51.2vdc	51.2vdc
OPERATION VOLTAGE RANGE	44~54	44~54
MAX. CHARGE/DISCHARGE CURRENT	150A	100A
OPERATING TEMPERATURE RANGE	-10 °C + 50°C*	-10 °C + 50°C*
SCALABILITY	Max 16 parallel connection for 48v units	
COMPATIBLE INVERTERS	Growatt / LXP / Genesis / HydroESS	
MONITORING PARAMETERS	Battery voltage, current, cell voltage, cell temperature	
COMMUNICATION	CAN and RS485	
ENCLOSURE PROTECTION RATING	IP-55	
ROUND TRIP EFFICIENCY	99%	
SYSTEM WEIGHT	100 kg	44 kg
DIMENSION (W x D x H)	400 mm x 166 mm x 800mm	400 mm x 260 mm x 266mm
CERTIFICATIONS & SAFETY STANDARDS	UN 38.3 / UL1642 / UL1973 / TUV (IEC62619) / CE / VDE2510	
APPLICATION	On Grid + Backup (Refer to the configuration list)	
PERFORMANCE WARRANTY	8,000 cycles to 80% remaining capacity	
PRODUCT WARRANTY	25 / 10 years	



YORO

AIO POWER