



HYBRID ENERGY SYSTEM (HES)

Customer Sited Energy Storage



ABOUT THE ECO R HES

The ECO R Hybrid Energy System (HES) is part of GS Battery (U.S.A.) Inc.'s series of customer sited energy storage systems. The ECO R HES is a fully integrated system and comes preconfigured with the renewable energy connections, electrical wiring, power conversion electronics and batteries needed to rapidly deploy a complete energy storage system.

The unit provides a quick, cost effective and easy installation. Installation only requires connection to:

- Renewable energy sources
- Grid power connection (if desired)
- Generator power connection (if desired)
- AC loads connections

The ECO R HES is feature rich and user friendly system that saves money at installation and for years into the future.



ENERGY STORAGE VERSATILITY

The ECO R HES is **compatible with multiple battery technologies** including AGM VRLA, Advanced Lead VRLA, Gel VRLA, Flooded Lead-acid and Lithium Ion.



EASY INSTALLATION

The ECO R HES integrates and tests all PV + Energy Storage system components before the HES is delivered to the project site. This **reduces project construction and commissioning time.**



GRID DEFLECTION

The ECO R HES significantly reduces electrical demand from the utility provider. This **reduced demand leads to lower utility bills** and a smaller carbon footprint.



TIME-OF-USE (TOU) SHIFTING

The ECO R HES significantly reduces energy bills by automatically **shifting electrical demand to stored energy** during periods when utility rates are highest.



PEAK DEMAND REDUCTION

The ECO R HES **eliminates expensive peak demand charges** by automatically shifting electrical load to stored energy when approaching a peak demand threshold.



OFF GRID

The ECO R HES operates in grid-tie and standalone modes. This feature can allow residential or commercial users to **operate completely off grid** with energy storage and renewable energy sources.



ZERO CARBON EV CHARGING

The ECO R HES features an optional EVSE. This feature allows EV drivers to **charge their vehicles using clean, renewable, zero carbon energy.**



SCALABILITY

The ECO R HES is **modular and scalable.** The unit can easily accommodate additional stored energy, additional renewable energy sources and increased available power output.

ABOUT GS BATTERY (U.S.A.) INC.

GS BATTERY (U.S.A.) INC. is a global leader in energy storage. Our batteries are manufactured to the highest standards and deliver high quality, long life and superior performance in a wide variety of mission critical applications. GS Battery's products deliver reliable battery power for Telecommunications, Renewable Energy, Uninterruptible Power Supply (UPS), Emergency Lighting, Power Sports, and Automotive industries.

FIND OUT MORE

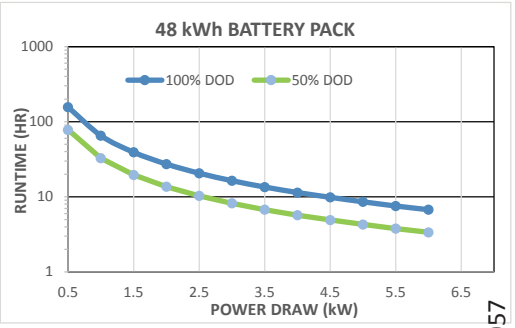
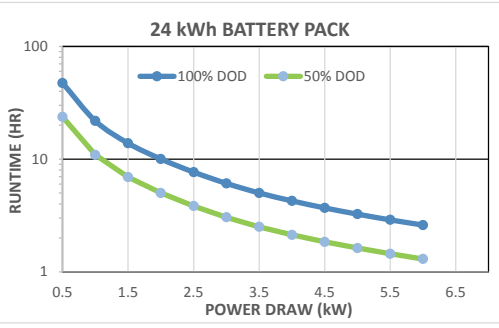
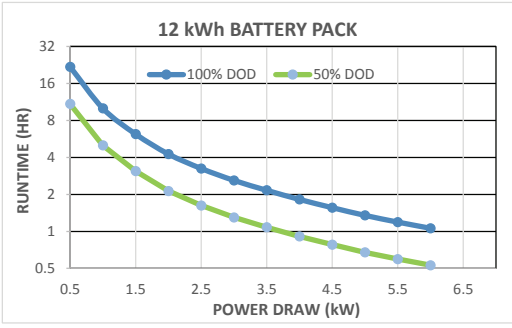




HYBRID ENERGY STORAGE (HES) SYSTEM

Customer Sited Energy Storage

	12 kWh Model	24 kWh Model	48 kWh Model	
PHYSICAL	Construction	Powder Coated Aluminum	Powder Coated Aluminum	Powder Coated Aluminum
	Enclosure Dimensions	32"W x 30"D x 80.4"H	50"W x 30"D x 80.4"H	82"W x 30"D x 80.4"H
	Access Doors	Front and Back	Front and Left Side	Front and Left Side
	Wire Entry	Side or Bottom	Side or Bottom	Side or Bottom
	Enclosure Type	NEMA 1	NEMA 1	NEMA 1
	Ventilation	100 CFM Exhaust Fan	100 CFM Exhaust Fan	100 CFM Exhaust Fan
	Convenience Outlets	(2) Duplex 115 volt, 20A	(2) Duplex 115 volt, 20A	(2) Duplex 115 volt, 20A
	Wire Entry	Side or Bottom	Side or Bottom	Side or Bottom
	Enclosure Hardware	Stainless/Lockable	Stainless/Lockable	Stainless/Lockable
	Color	Custom	Custom	Custom
ELECTRICAL	Inverter Output Power	6800 @ 25C / 6000 @ 40C	6800 @ 25C / 6000 @ 40C	6800 @ 25C / 6000 @ 40C
	Inverter Output Frequency	50/60 Hz	50/60 Hz	50/60 Hz
	Inverter Output Voltage	L-N: 120 V ±3%; L-L: 240 V ±3%	L-N: 120 V ±3%; L-L: 240 V ±3%	L-N: 120 V ±3%; L-L: 240 V ±3%
	DC Input Voltage	42-60 VDC (48 VDC Nominal)	42-60 VDC (48 VDC Nominal)	42-60 VDC (48 VDC Nominal)
	DC Max Current	180A	180A	180A
	DC Charge Current	140A (Maximum)	140A (Maximum)	140A (Maximum)
	DC Charge Voltage	42-60 VDC (48 VDC Nominal)	42-60 VDC (48 VDC Nominal)	42-60 VDC (48 VDC Nominal)
	DC Charge Control	3 stage, 2 stage, boost, custom	3 stage, 2 stage, boost, custom	3 stage, 2 stage, boost, custom
	DC Charge Temp Compensation	Temperature Sensor	Temperature Sensor	Temperature Sensor
	AC Inputs	2	2	2
	AC Input Current (Grid)	3-60A	3-60A	3-60A
	AC Input Current (Generator)	3-60A	3-60A	3-60A
	Inverter Compliance	UL1741, IEEE 1547 and CSA 107.1	UL1741, IEEE 1547 and CSA 107.2	UL1741, IEEE 1547 and CSA 107.3
	PV Connection	External Combiner/Disconnect	External Combiner/Disconnect	External Combiner/Disconnect
	PV Array Voltage (Operating)	140V	140V	140V
	PV Array Voltage (Max)	150V	150V	150V
	Charge Controller Max Current	60A	60A	60A
Charge Controller Type	MPPT	MPPT	MPPT	
Charge Controller Max Output	3500W	3500W	3500W	
Charger Regulation Method	3 stage (Bulk, Absorb, Float) +Equalization	3 stage (Bulk, Absorb, Float) +Equalization	3 stage (Bulk, Absorb, Float) +Equalization	
System Communications	Ethernet: Web, Modbus	Ethernet: Web, Modbus	Ethernet: Web, Modbus	
OPTIONS	AC Distribution	12 Circuit AC Load Center	12 Circuit AC Load Center	12 Circuit AC Load Center
	EV Charger	Level II	Level II	Level II
	Inverter Upgrades	Parallel up to 102 kW	Parallel up to 102 kW	Parallel up to 102 kW
	Battery Upgrades	Increased Cycle Life	Increased Cycle Life	Increased Cycle Life
		Increased kWh	Increased kWh	Increased kWh
		Extended Warranty	Extended Warranty	Extended Warranty
	Enclosure Type	NEMA 3R	NEMA 3R	NEMA 3R
	Air Conditioning	2000 BTU/hr AC Unit	2000 BTU/hr AC Unit	2000 BTU/hr AC Unit
Advanced User Interface	GELI Touchscreen	GELI Touchscreen	GELI Touchscreen	



Dealer Information



GS BATTERY (USA), INC.
 1150 Northmeadow Parkway, Suite 110
 Roswell, GA 30076
 T 800-472-2879

500-100-057
 REV2015.06.29