



EMS INTEGRATED,
VPP COMPATIBLE



SMART MANAGEMENT
VIA WEB & APP



IP65 RATED



EXPANDABLE
STORAGE



'PLUG & PLAY'
INSTALLATION



6000W CHARGING /
DISCHARGING RATE



Energy Storage System

A1 HV Series

A1-HV-3K/A1-HV-3K68 / A1-HV-5K / A1-HV-6K
All in One ESS

The RENAC A1-HV series all-in-one ESS combines a hybrid inverter and high-voltage batteries for maximum round-trip efficiency and charge / discharge rate capacity. It is integrated in one compact and stylish unit for the easy installation.

Model	A1-HV-3.0	A1-HV-3.68	A1-HV-5.0	A1-HV-6.0
DC Input Data				
Max. Recommended PV Power [W]	3900	4600	6500	7800
Max.DC Input Voltage [V]		600		
MPPT voltage Range [V]		125 ~ 550		
Start-up Voltage [V]		120		
No. of MPP Trackers		2		
No. of Input Strings per Tracker		1		
Max. DC Input Current [A]		13 / 13		
DC Switch		Standard		
Battery Input Data				
Battery Capacity	LiFePO4 5KWH / 10KWH / 15KWH / (Maximum 3 modules of the same type)			
Battery Type	lithium battery			
Recommended Battery Voltage [VDC]	300			
Battery Voltage Range [V]	85 ~ 400			
Max. Charging / Discharging Power [W]	6000			
Max. Charging / Discharging Current [A]	25			
Communication Interface	CAN / RS485			
AC Output Data (on-grid)				
Rated AC Power [W]	3000	3680	4600	6000
Max.output power [VA]	3000	3680	5000	6000
Max. AC Current [A]	13	16	21.7	26
Rated AC Voltage / Range [V]	220 / 230; 180 ~ 270			
Grid frequency / range [Hz]	50 / 60; ±5			
Ajustable Power Factor [cos ϕ]	0.8leading ~0.8laggin			
Output THDi (@Rated Output)	< 3%			
EPS AC Output Data (Back-UP)				
EPS Rated Power [VA]	4000	4000	5000	5000
EPS Rated Voltage [V]	220 / 230			
EPS Rated Frequency [Hz]	50 / 60			
Max.Output Current [A]	17.4	17.4	21.7	21.7
Output THDi (@Rated Output)	< 2%			
Automatic switch time [s]	< 0.5			
Peak power, Duration [VA, s]	6000, 10	6000, 10	8000, 10	8000, 10
Efficiency				
Max. Efficiency	97.80%	97.80%	97.80%	97.80%
Euro Efficiency	97.00%	97.00%	97.00%	97.00%
MPPT Efficiency	99.90%	99.90%	99.90%	99.90%
Max. Battery Discharge Efficiency (BAT to AC)	97.00%	97.00%	97.00%	97.00%
General Data				
Size (Width × Height × Depth) [mm]	420 × 1470 × 185			
Weight [KG]	110			
User Interface	LCD			
Communication	RS485 or Wifi or GPRS			
Ambient Temperature Range [°C]	-25 ~ 60			
Relative Humidity	0 ~ 100%			
Operating Altitude [m]	≤ 4000			
Standby Self Consumption [W]	< 1			
Topology	Transformerless			
Cooling	Natural Convection			
Protection Grades	IP65			
Noise [dB]	< 35			
Warranty [years]	5 / 7 / 10			
Certifications & Standards				
Grid Regulation	G98,G99,NRS-097, MEA, PEA, AS4777, EN50438,CEI-021			
Safety Regulation	IEC 62109-1, IEC 62109-2, IEC62040			
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61000-4-16, EN 61000-4-18, EN 61000-4-29			
Protection				
	* DC Insulation Monitoring	* Over-heat Protection	* DC Surge Protection	
	* Input Reverse Polarity Protection	* AC Overcurrent Protection	* AC Surge Protection	
	* Anti-island Protection	* AC Short-circuit Protection		
	* Residual Current Monitoring	* AC Overvoltage Protection		