



RENAC



SMART MANAGEMENT
VIA WEB & APP



EMERGENCY POWER
SUPPLY



'PLUG & PLAY'
INSTALLATION



IP65 RATED



EMS INTEGRATED,
UP TO 8 OPERATION
MODES



COMPATIBLE WITH
LI-ION & LEAD-ACID
BATTERY (48V)



Energy Storage System

N1 HL Series

3KW / 3.68KW / 5KW

Single Phase, 2 MPPT, Hybrid Inverter

RENAC N1 HL series Hybrid inverter is applicable with both on-grid and off-grid PV systems. It controls the flow of energy intelligently. End users can choose to charge batteries with free, clean solar electricity or grid electricity and discharge stored electricity when it is needed with flexible operation mode choices.

Model	ESC3000-DS	ESC3680-DS	ESC5000-DS
DC Input Data			
Max. Recommended PV Power [Wp]	3300	4000	5500
Max.DC Input Voltage [V]		580	
MPPT voltage Range [V]		100 - 550	
Start-up Voltage [V]		110	
No. of MPP Trackers		2	
No. of Input Strings per Tracker		1	
Max. DC Input Current [A]		12 / 12	
DC Switch		Integrated	
AC Output Data (On-grid)			
Rated AC Power [W]	3000	3680	4600
Max.output power [VA]	3000	3680	4600
Max. AC Current [A]	13	16	21.7
Rated AC Voltage / Range [V]		220/230; 180-270	
Grid frequency / range [HZ]		50/60; ±5	
Ajustable Power Factor [cos φ]		0.8 leading -0.8 lagging	
Output THDi (@Rated Output)		< 3%	
Ourput DC (Battery)			
Battery Type		Lead-acid battery / lithium battery	
Recommended Battery Voltage [V]		48	
Battery Voltage Range [V]		40 - 60	
Max. Charging / Discharging Power [W]		3000	
Max. Charging / Discharging Current [A]		60	
Communication Interface		CAN	
EPS Output (With Battery)			
EPS Rated Power [W]		3000	
EPS Rated Voltage [V]		220 / 230	
EPS Rated Frequency [HZ]		50 / 60	
EPS Rated Current [A]		13	
Output THDi (@Rated Output)		< 3%	
Automatic switch time [s]		< 5	
Peak power, Duration [W, S]		4500W, 10S	
Efficiency			
Max.Efficiency	97.60%	97.60%	97.60%
Euro Efficiency	97.00%	97.00%	97.00%
MPPT Efficiency	99.90%	99.90%	99.90%
Battery Charge/Discharge efficiency	94.00%	94.00%	94.00%
General Data			
Size(Width*Height*Depth) [mm]		526*528*193	
Weight [KG]		29.5	
User Interface		LCD	
Communication		Ethernet (standard), 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, EN50549, IEC61727, IEC62116, IEC60068, IEC61683		
Safety Regulation	IEC 62109-1, IEC 62109-2, IEC62040		
EMC	EN 61000-6-2, EN 61000-6-3, 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	