

Residential Hybrid Inverter

N1 HL Series

3kW / 3.68kW / 5kW



Features

Single Phase, 2 MPPTs



Compatible with lithium & lead-acid battery (48V)



IP65 outdoor design



Emergency power supply



EMS integrated



Remote work mode setting



Virtual Power Plant integrated



Model	ESC3000-DS	ESC3680-DS	ESC5000-DS
PV Input			
Max. Recommended PV Power [Wp]	3900	4600	6500
Max. PV 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. PV Input Current [A]		13.5 / 13.5	
Max. Short-circuit Current [A]		17 / 17	
DC Switch		Integrated	
AC Output (On-grid)			
Rated AC Output Power [W]	3000	3680	5000 ⁽¹⁾
Max. AC Output Apparent Power [VA]	3000	3680	5000 ⁽¹⁾
Max. AC Output Current [A]	13	16	21.7
Rated AC Voltage [V]		220 / 230	
Grid Frequency [Hz]		50 / 60	
Adjustable Power Factor [cosφ]		0.8 leading ~ 0.8 lagging	
Output THDi (@Rated Output)		< 3%	
Battery			
Battery Type		Lithium / Lead-acid	
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	
Backup Output (With Battery)			
Rated Output Power [W]		3000	
Rated Output Voltage [V]		220 / 230	
Rated Frequency [Hz]		50 / 60	
Rated Output Current [A]		13	
Output THDv (@Linear Load)		< 3%	
Automatic Switch Time [s]		< 5	
PeakPower, Duration [VA.s]		4500, 10	
Efficiency			
Max. Efficiency	97.6%	97.6%	97.6%
Euro Efficiency	97.0%	97.0%	97.0%
Max. Battery Charge / Discharge Efficiency	94.0%	94.0%	94.0%
General Data			
Dimensions (W * H * D) [mm]		528 * 526 * 193	
Weight [kg]		29.5	
Display		LCD	
Communication		RS485, WiFi	
Ambient Temperature Range [°C]		-25 ~ +60	
Relative Humidity		0 ~ 100%	
Operating Altitude [m]		≤ 4000	
Night Self-consumption [W]		< 1	
Topology		Transformerless	
Cooling		Natural	
Ingress Protection		IP65	
Noise [dB]		< 35	
Certifications & Standards			
Grid Regulation	G98, G99, NRS-097, MEA, PEA, AS 4777, EN 50438, CEI 0-21, EN 50549, IEC 61727, IEC 62116, IEC 60068, IEC 61683, C10 / 11		
Safety Regulation	IEC 62109-1, IEC 62109-2, IEC 62040		
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	• AC Overvoltage Protection	• Anti-island Protection
	• Residual Current Monitoring	• AC Overcurrent Protection	• Over-heat Protection
	• Input Reverse Polarity Protection	• AC Short-circuit Protection	• DC / AC Surge Protection