LPESS | Beyond Sunlight. Proven Power

LPR-H18K-NA3-48PR

18kW

● **LPR-H18K-NA3-48PR** is an 18kW 48V three-phase hybrid solar storage inverter for demanding backup and solar storage systems. It supports 120/208V three-phase output, IP65 outdoor installation, triple MPPT solar input and lithium battery BMS communication. With up to 11HP motor load capacity and 1-9 units parallel expansion, it is built for larger homes, farms, telecom sites and commercial power loads.

Recommended Applications

- Recommended For Farms
- Telecom Sites
- Workshops
- Estates
- Islands/Three-Phase Hybrid Backup Systems

Features

120/208V Three Phase

Supports split-phase power for markets using 120/240Vac systems, making it suitable for household loads, backup circuits, pumps, tools and common regional electrical layouts.

Triple MPPT Solar

Dual MPPT inputs improve solar design flexibility for different roof orientations or PV strings, helping capture more usable energy across changing sunlight conditions.

IP65 Outdoor

IP65 protection gives stronger outdoor installation flexibility than indoor-only models, helping the inverter handle dust and water exposure in farms, islands and rural sites.

Parallel Expansion

Supports up to 6 units in parallel, allowing the system to scale for larger homes, farms or business loads without changing the entire inverter platform.

Hybrid Power Input

Works with solar, battery, grid and generator input, allowing users to reduce grid dependence while keeping backup options during outages or unstable utility supply.

Smart Monitoring

RS485, CAN, USB, dry contact and optional Wi-Fi/GPRS support enable battery communication, remote monitoring and easier system management for installers and users.

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Parameter	LPR-H18K-NA3-48PR
SYSTEM TYPE	
System Type	Hybrid solar storage inverter
AC INPUT / OUTPUT DATA	
Rated AC Input / Output Active Power	18,000W
Max. AC Input / Output Apparent Power	19,800VA
Rated AC Input / Output Current	55.5A / 50A
Max. AC Input / Output Current	55.5A / 50A
Peak Power (Off-grid)	36,000VA
Load Motor Capacity	11HP
Power Factor Adjustment Range	0.8 leading to 0.8 lagging
Rated Input / Output Voltage / Range	120/208V, 0.85Un-1.1Un
Rated Input / Output Grid Frequency / Range	60Hz / 40Hz-70Hz
Grid Connection Form	3L + N + PE
THD	<3% of nominal power
BATTERY INPUT DATA	
Battery Type	Lead-acid / Lithium / User-defined
Number of Battery Input	2
Battery Voltage Range	40-60Vdc
Max. Grid / Generator Charging Current	350A
Max. Hybrid Charging Current	350A
Max. Discharging Current	350A
Charging Strategy for Li-ion Battery	Self-adaption to BMS
PV INPUT DATA	
No. of MPPT Trackers	3
No. of Strings MPPT Tracker	2 + 2 + 2
Max. PV Access Power	36,000W
Max. PV Input Power	28,800W
Max. PV Input Voltage	600V / 600V / 600V
Start-up Voltage	120V
Max. PV Input Current	40A + 40A + 40A
Max. Input Short-circuit Current	50A + 50A + 50A
MPPT Voltage Range	120-500V
GRID / GENERATOR INPUT	
Input Voltage Range	Phase voltage: 90-140V; line voltage: 156-243V
Input Frequency Range	40Hz-70Hz
Max. Bypass Overload Current (Grid)	200A
EFFICIENCY	
MPPT Tracking Efficiency	99.9%
Max. Efficiency	97.5%
CEC Efficiency	97%
GENERAL DATA	
Parallel Capacity	1-9 units
Dimensions (W x H x D)	480 x 860 x 313 mm
Weight	59kg
Protection Degree	IP65
Operating Temperature Range	-25°C to 60°C, >45°C derating
Humidity Range	0-100%
Noise	<55dB
Cooling Method	Heat sink + intelligent air cooling
Warranty	5 years
COMMUNICATION	
Embedded / Communication Interfaces	RS485 / CAN / USB / Dry Contact
External Module (Optional)	Wi-Fi / 4G Stick
CERTIFICATION	
Certified Specifications	CSA C22.2 No 107.1-16, IEC62109-1, IEC62109-2, EN61000-6-1, EN61000-6-3
PROTECTION	
PV Lightning Protection	Yes
Anti-islanding Protection	Yes
Leakage Current Detection	Yes
Insulation Resistor Detection	Yes
Output Overcurrent / Short-circuit Protection	Yes
PV Input Reverse Polarity Protection	Yes
Overvoltage Category	AC type III / DC type II
Surge Protection	AC type II / DC type II

- Specifications are subject to change without prior notice.
- Product images are for reference only. Actual product appearance may vary depending on configuration.
- Battery compatibility should be confirmed according to BMS protocol and system configuration.
- PV string design must follow the maximum PV open-circuit voltage, MPPT voltage range and maximum PV input current limits.
- Parallel system design should use matching inverter models, shared battery bank and proper AC/DC protection devices.

+(0512) 6722 5037 E:info@Levin-Power.com