PINAKIN POWER SOLAR

TECHNICAL DATASHEET
PPS-LFP-24V-100Ah

24V CLASS | 100Ah | LiFePO■ HOME ENERGY STORAGE



25.6V	100Ah	2.56kWh	5 YEARS
Nominal voltage	Rated capacity	Nominal energy	Limited warranty*

Product description

A rechargeable 8-series (8S) lithium iron phosphate battery pack intended for compatible 24V-class solar hybrid inverters and residential backup systems. The pack uses a nominal 25.6V battery voltage (commonly marketed as 24V class), 100Ah rated capacity and a basic 100A battery management system (BMS).

Electrical specifications

Parameter	Specification	Notes
Battery chemistry	Lithium Iron Phosphate (LiFePO■)	Confirm cell make/model in production BOM
Pack configuration	8S1P; 8 × 3.2V, 100Ah cells	Cell arrangement
Nominal voltage	25.6V DC	24V-class system
Rated capacity	100Ah	At specified test conditions
Nominal energy	2,560Wh (2.56kWh)	25.6V × 100Ah
Recommended usable energy	Approx. 2.05–2.30kWh DC	80–90% usable window; depends on settings
Charge voltage	28.4–29.2V DC	29.2V is 3.65V/cell; confirm cell supplier

Parameter	Specification	Notes
Recommended charge current	20–50A	Use 20A–50A unless cell datasheet specifies otherwise
Maximum charge current	Up to 50A proposed	100A BMS rating does not establish charge rating
Continuous discharge current	Up to 100A proposed	Subject to cell and thermal validation
Nominal continuous DC power	2.56kW at 25.6V / 100A	Actual power varies with voltage and temperature
Inverter low-voltage setting	About 22.4V recommended	Final setting must suit inverter and BMS
BMS emergency low-voltage cut-off	Cell-based; target not to exceed cell limits	Set by BMS supplier; do not assume pack voltage
Float / equalization	Float disabled or low standby per inverter; equalization OFF	Use LiFePO■ profile
Communication	Basic BMS; no external comms specified	No CAN/RS485/Bluetooth claim

Protection, operating limits & installation

Feature	Specification / requirement
BMS rating	100A continuous discharge class; verify charge rating separately
Protection functions to confirm on purchased BMS	Cell over-voltage, cell under-voltage, over-current, short-circuit and temperature protection
Cell balancing	Passive balancing only if included in selected BMS; confirm balancing current
Charge temperature	0°C to 50°C proposed operating window; charging below 0°C prohibited unless cell maker expressly permits
Discharge temperature	-20°C to 55°C proposed; derate near temperature limits
Storage	Store cool, dry and ventilated; follow cell maker's SOC and temperature guidance
Cooling	Natural convection; maintain ventilation and clearance
Enclosure	Metal enclosure as shown; final IP rating not specified
Terminals	Insulated, polarity-marked DC terminals; final type/current rating to be verified
Protection external to battery	Install correctly rated DC fuse/breaker close to battery positive terminal
Cabling	Cable cross-section and length sized for 100A duty and allowable voltage drop

Typical home-backup illustration

At 90% inverter efficiency and 90% usable battery energy (approximately 2.07kWh AC delivered), estimated runtimes are: 100W ≈ 20.7h; 200W ≈ 10.3h; 300W ≈ 6.9h; 500W ≈ 4.1h; 1,000W ≈ 2.1h. Actual runtime depends on load profile, inverter efficiency, temperature, battery age and BMS limits.

Compatibility & safety

Use only with a 24V-class inverter/charger configured for 8S LiFePO■. Disable lead-acid equalization. Confirm charging voltage/current, low-voltage cutoff, inverter surge demand and BMS limits before commissioning. Do not connect to a 12V or 48V system. Install indoors or in a protected, dry, ventilated location away from heat and direct sunlight. Installation must be performed by a qualified technician.

Warranty statement

5-year limited warranty — proposed commercial warranty term. The final warranty card must define start date, covered defects, capacity-retention threshold, cycle/throughput limit, operating conditions, exclusions and claim process. Do not publish a capacity-retention promise until approved by Pinakin Power Solar and backed by the cell/BMS supplier.

Important technical release note

This is a proposed pack-level specification based on the selected configuration, not a certified test report. Before production release, validate actual cell datasheets, BMS model and protection thresholds, charge/discharge current, temperature cut-offs, enclosure dimensions/weight, fuse rating, terminal rating, thermal performance and applicable Indian compliance requirements. No BIS/IEC/UL certification is claimed in this document.

Manufacturer / Brand: PINAKIN POWER SOLAR | Website: www.pinakinsolar.net

Factory: Plot No. 4, Mohal Jatoli, Dainkwan Road, Tehsil Nurpur, District Kangra, Himachal Pradesh, India – 176204