

Characteristics & Advantages

Highest Efficiency & Life Expectancy

Highest Safety Standards

Fast Charging Time (ca. 2-3h)

Low Self-Maintenance Discharge

High Charge-/Discharge Currents

Maintenance free

No periodic Discharge necessary

No Memory Effect

Cost Effective & Space Saving

Single Modules, easy to assemble

Design & Operating Mode

The basis of *LiRack* are modules with each 3.5 kWh/60Ah or 5.6 kWh/100Ah lithium iron mangan phosphate LiFeMnPO_4 battery cells. Their chemical composition is intrinsically safe, that is they cannot burn or explode, and they have a long life expectancy even under high loads. 2 modules are assembled to storages of 7 or 11.2 kWh, 4 are assembled to 14 or 22.4 kWh storages.

In addition, *LiRack* contains a *LiTerminal* Unit. *LiTerminal* is a monitoring circuitry with integrated **Active Balance** BMS (Battery Management System).

Modular Energy Storage



Specification LiRack Storages	LR 7-48	LR 11-48	LR 14-48	LR 22-48
Capacity [kWh / Ah]	7 / 120	11 / 200	14 / 240	22 / 400
Nominal- / Charge voltage [V]	48 / 55			
Max. Charge- / Discharge current [A]	120	200	200	200
Dimensions (WxDxH) [mm]	512x328x795	512x328x795	512x328x1436	512x328x1436
Weight [kg]	95	125	189	235
Cell type	LiFeMnPO ₄ High performance cells, intrinsic safe			
No. of cycles	6000 (80% DoD)			
Performance [%]	99			
Working- / Storage temperature [°C]	-20 bis 60			
Interfaces	CAN (Studer, SMA, NEDAP), Ethernet, USB			



If you have questions, please do not hesitate to contact us.

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Characteristics & Advantages

LiRack consists of modules with 3.5 respective 5.6 kWh. This construction makes for easy mounting and wiring of the individual cells. Prefabricated cable looms with integrated temperature sensors provide the connection to the monitoring unit *LiTerminal*, which is located in the upper part of the unit.

Storage Cells

LiFeMnPO₄ lithium iron mangan phosphate storage cells are intrinsically safe in their chemistry, that is to say, they can neither burn nor explode.

Their robustness and long life expectancy was scientifically confirmed at *Ansbach University of Applied Sciences*, where more than 8000 cycles (LiFeYPO₄) were reached under extreme test conditions. That equals a life expectancy of more than 20 years!

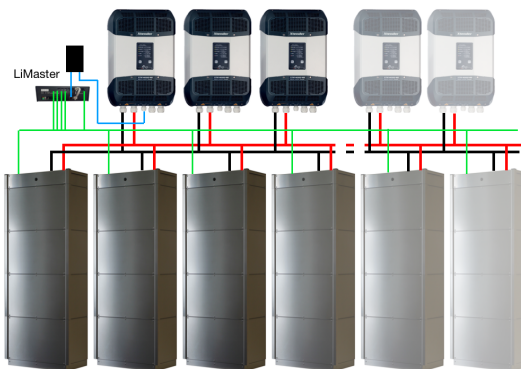
Safety

In case of a malfunction of the inverter or charge controller *LiTerminal* will disconnect the electrical connection to the battery block. This prevents over charging or deep discharging. As special equipment, *LiTerminal* can be fitted with two separate relays.

*) Cluster storage

LiRack can be extended to any size memory by parallel connection.

If a CAN communication to inverters is required, a *LiMaster* is required as an intermediary between LiRacks and inverters.



LiTerminal



LiTerminal is fitted into a small metal housing. It contains all necessary electronic and switching elements for the control and monitoring of the battery storage unit. *LiTerminal* provides the connection between the battery cells and the inverter and it monitors the voltage and the temperatures of the 16 connected storage cells.

Balancer

LiConnect contains an **active inductive** balancer which can transfer energy as required from the stronger to the weaker cells during the **entire** charge and discharge phase. This process has an approx. 92% efficiency. All cells are maintained on the same voltage level, and weak cells do not repeatedly hit their limits. This increases the life expectancy of the entire battery block by about 30%.



Range of Applications



Photovoltaic systems



Windpower



Hydroelectric systems



Biogas systems



Block heating stations



Mobile systems



Radio masts



Traffic signs



Off-Grid systems



And many more

More Products

LiHome series: 3.5kWh, 5.6kWh

LiRack series: 8.9kWh, 11.2kWh, 33.6kWh, 55.0kWh

LiConnect OEM product for battery manufacturers

