LITHIUM EXTENSION BATTERY

LE300

EXTEND ANY LEAD ACID BATTERY SYSTEM WITH $LiFePO_4$ HYBRID TECHNOLOGY

MADE IN GERMANY

THE LE300 LITHIUM EXTENSION BATTERY IS A FULLY SCALABLE SOLUTION TO ENHANCE PERFORMANCE AND ADD CAPACITY TO LEAD ACID BATTERIES IN SOLAR AND ANY OTHER KIND OF ENERGY STORAGE SYSTEMS. THEY CAN BE USED WITH NEW OR EXISTING 12 V LEAD ACID BATTERIES. JUST STACK THEM IN PARALLEL TO MEET YOUR SPECIFIC SYSTEM SPECS.

Like in all BOS AG Hybrid battery systems the LE300 Lithium Extension Battery takes most of the charging cycles while the lead acid battery provides inexpensive backup capacity. The lead acid battery is charged with higher priority, the LE300 Lithium Extension Battery takes all surplus energy. This helps to increase the lead acid battery life. The system recognizes the lead acid battery voltage and automatically starts to support the lead acid battery with a maximum current of 12.5 A per unit. Bigger loads get supplied by the lead acid and the lithium battery in parallel, resulting in smaller currents for each battery.

CORE BENEFITS

- Flexible capacities by simply connecting several packs
- State of the art LiFePO4 batteries
- Retrofitting & extension of already installed systems without change in wiring or other components
- No additional controller needed, simply connect directly to the lead acid batteries
- Lead acid battery is charged with higher priority, lithium battery is discharged first
- Lithium performance and lead acid cost advantages are combined
- Plug & Play > simply connect two cables
- Robust housing with variable fixing possibilities
- Integrated heating for low temperature charging

UN38.3 PASSED Transport Safety Certified

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	LE300
System voltage	12 VDC
Nominal voltage	12.8 VDC
Voltage range	11 – 15 VDC
Battery packs used in LE300	IFpR/26/65 [8p/4s] E/-20NA/95 LiFePO4 rechargeable battery
Nominal lithium capacity	25.6 Ah/328 Wh
Usable lithium capacity	90 % (23 Ah/295 Wh)
Numbers of cycles at room temperature	>2000 complete cycles
Recommended lead acid capacity for each LE300 (not included)	70 – 125 Ah @ 12 VDC
Recommended lithium/lead acid capacity ratio (net)	1/3 in solar home applications. Values vary depending on needed autonomy and on application.
Continuos charging/discharign current	Max. 12.5 A between 5 and 40 °C, at higher and lower temperatures current is limited.
Battery efficiency	> 90 %
Housing dimensions	175x229x67 mm
Weight	3.4 kg
Connection terminals	RAST 5/mini module 4 pin/communication interface/external display
Recommended wire size	1.5 – 4 mm^2
Ambient temp. (operation & warehousing)	-20 – 50 °C ambient temperature with maximum battery life at 15 - 25 °C. Warehousing temperature 10 – 30 °C.
Low and high temperature protection, heating, charging & discharging	Temp. sensor prevents lithium battery charge under -5 °C or above 55 °C cell temp. Charging starts once cell temp. is higher than -5 °C. Device has an integrated heating that is active between -20 °C and 10 °C cell temp. Discharge possible between -20 °C and 60 °C cell temp. At cell temp. below -20 °C and over 60 °C system is running in pure lead acid mode for higher battery lifetime.
Lithium cell balancing	Battery management inclusive balancer
Protection features	Overcurrent, overvoltage, short circuit, deep discharge, wrong polarity protection.
Operation mode/compatible external batteries	Works in combination with any 12 V lead acid battery & lead acid charge controller.
Max. parallel LE300s	In standard version, a maximum of 24 LE300 can be connected in parallel, higher quantities possible after consulting BOS partner.

EXEMPLARY BATTERY PACK CONFIGURATION	Parallel	
Qt. of packs connected in parallel	6	2
Total nominal voltage	12.8 VDC	12.8 VDC
Total lithium capacity	153.6 Ah/1.97 kWh (138.2 Ah/1.77 kWh)	51.2 Ah/656 Wh
Continuous charging/discharging current	Max. 75 A	Max. 25 A
Recommended lead acid capacity (not included)	Min. 40 Ah	Min. 20 Ah

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