12,8 V & 25,6 V Lithium SuperPack batteries

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Integrated BMS and safety switch

The SuperPack batteries are extremely easy to install, needing no additional components.
The internal switch will disconnect the battery in case of over discharge, over charge, low or high temperature.

Abuse proof

A lead-acid battery will fail prematurely due to sulfation:

- If it operates in deficit mode during long periods of time (i.e. if the battery is rarely, or never at all, fully charged).
- If it is left partially charged or worse, fully discharged.

A Lithium-Ion battery does not need to be fully charged. Service life even slightly improves in case of partial charge instead of a full charge. This is a major advantage of Li-ion compared to lead-acid.

The SuperPack batteries will cut-off the charge or discharge current when the maximum ratings are exceeded.

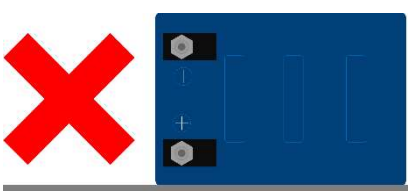
Efficient

In several applications (especially off-grid solar), energy efficiency can be of crucial importance.
The round-trip energy efficiency (discharge from 100 % to 0 % and back to 100 % charged) of the average lead-acid battery is 80 % .
The round-trip energy efficiency of a Li-ion battery is 92 % .
The charge process of lead-acid batteries becomes particularly inefficient when the 80 % state of charge has been reached, resulting in efficiencies of 50 % or even less in solar systems where several days of reserve energy are required (battery operating in 70 % to 100 % charged state).
In contrast, a Li-ion battery will still achieve 90 % efficiency even under shallow discharge conditions.

Can be connected in parallel

The batteries can be connected in parallel. Series connection is not allowed.
Use in allowed positions only.

Every battery [4]



12,8/200 (BAT512120705) [5]

Lithium SuperPack	12,8/20	12,8/60	12,8/100	12,8/200	25,6/50
Chemistry	LiFePO4				
Nominal voltage	12,8 V				25,6 V
Nominal capacity @ 25 °C	20 Ah	60 Ah	100 Ah	200 Ah	50 Ah
Nominal capacity @ 0 °C	16 Ah	48 Ah	80 Ah	160 Ah	40 Ah
Nominal energy @ 25 °C	256 Wh	768 Wh	1280 Wh	2560 Wh	1280 Wh
Cycle life @ 80 % DoD and 25 °C	2500 cycles				
Capacity loss	(per 100 cycles, @ 25 °C, 100 % DoD): <1 %				
Energy loss	(per 100 cycles, @ 25 °C, 100 % DoD): <1 %				
Round trip efficiency	92 %				
CHARGE and DISCHARGE					
Max. cont. discharge current [1]	30 A	30 A	100 A	70 A	50 A
Peak discharge current (10 sec)	80 A	80 A	150 A	100 A	100 A
End of discharge voltage	10 V				20 V
Charge voltage, absorption [2]	14,2 V – 14,4 V				28,4 V – 28,8 V
Charge voltage, float	13,5 V				27 V
Max. cont. charge current	15 A	30 A	100 A	70 A	50 A
OPERATING CONDITIONS					
Parallel configuration	Yes, unlimited				
Series configuration	No				
Operating temperature	Discharge: -20 °C to +50 °C Charge: +0 °C to +45 °C [3]				
Storage temperature	-40 °C to +65 °C				
Max. storage time when fully charged	1 year ≤ 25 °C 3 months ≤ 40 °C				
Humidity (non-condensing)	Max. 95 %				
Protection class	IP 43				
MOUNTING					
Can be placed on its longest side	Yes [4]	Yes [4]	Yes [4]	Yes [4, 5]	Yes [4]
OTHER					
Power connection (threaded inserts)	M5	M6	M8	M8	M8
Dimensions (h x w x d) mm	167 x 181 x 77	213 x 229 x 138	220 x 330 x 172	208 x 520 x 269	220 x 330 x 172
Weight	3,5 kg	9,5 kg	14 kg	21 kg	14 kg

1. The battery may disconnect when a load with a high input capacitance is connected, such as an inverter. The battery will however retry and connect after approximately 10 seconds.
2. The absorption period should preferably not exceed 4 hrs. A longer absorption period may slightly reduce service life.
3. For serial number HQ2040 and newer the charge is automatically blocked when the cell temperature decreases below 0±3 °C. It will accept charging again when the temperature is above 3±3 °C. Discharge is automatically blocked when cell temperature decreases below -20±3 °C. This protection resets when temperature is above -15±3 °C.
4. The battery can be mounted upright and, on its longest sides, (assuming the exceptions in [5]), but not with both battery terminals facing down.
5. Do not lay the battery on its long side where the positive terminal (+) is at the bottom, see the image on the left.