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

www.victronenergy.com

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 upright position only.







Lithium SuperPack	12,8/20	12,8/60	12,8/100	12,8/100 High current	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					
CHARGE and DISCHARGE						
Max. cont. discharge current [1]	30 A	30 A	50 A	100 A	70 A	50 A
Peak discharge current (10 sec)	80 A	80 A	100 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	50 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					
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. Serial number HQ2040 and newer: charge is automatically blocked when the cell temperature decreases below 0±3 °C. It will accept charging again when increased above 3±3 °C. Discharge is automatically blocked when cell temperature decreases below -20±3 °C. This protection resets when temperature above -15±3 °C.