

LITE COMMERCIAL HV RANGE

Range Overview Specification Sheet



	Commercial 100/80 HV	Commercial 200/160 HV	Commercial 300/240 HV	Commercial 400/320 HV	Commercial 500/400 HV
Total Energy Capacity [kWh]	100	200	300	400	500
Energy, 80% DoD [kWh]	80	160	240	320	400
Energy, 90% DoD [kWh]	90	180	270	360	450
Current Capacity [Ah]	200	400	600	800	1000
Max/Cont. Charge and Discharge Current [A] ¹	200/200	400/300	800/700	800/700	800/700
Max & Cont. Charge and Discharge Power [kW] ¹	112	200	300	400	400
Nominal Voltage [V]	512	512	512	512	512
Max/Min. Operating Voltage [V]	568/456	568/456	568/456	568/456	568/456
Max Recommended Inverter Total Rated Power (cont.) [kVA]	120	200	300	400	400
Short Circuit Current [kA]	5	10	15	19	24
Battery Dimensions – H x W x D [mm] ²	1636x1405x365	1600x1403x721	1460x2420x730	1460x2940x730	1450x3520x730
Crated Dimensions – H x W x D [mm]	1790x1600x575	1780x1555x815	1575x2570x815	1584x3285x848	1575x3990x835
Battery Weight [kg]	800	1542	2370	3076	3750
Crated Weight [kg]	914	1664	2564	3300	4030
DC Connection – Fly Leads (no. per electrode) [mm²] ³	1x95mm² Permopower	1 x 120mm² Permopower	1 x 185mm² Permopower	1 x 185mm² Polybraid	1 x 185mm² Polybraid
Round Trip Efficiency [%]	96-97				
Enclosure	3mm thick Aluminium, powder coated, tamper proof, indoor use, rated to IP20				
Protection	Shunt Trip Circuit Breaker sized to suit max current, can be tripped by BMS if critical fault, manual reset. Protection for overcurrent, cell under and over voltage, temperature, weak cell detection and other critical events				
Control Interface	CAN Bus for diagnostics & troubleshooting. RJ45 Strictly for BMS & inverter communication				
Human Interface	On and Off buttons, State of Charge display (0 to 100%), Error light, Error Reset button, USB plug for programming and data access with PC, main breaker				
On-board Management	Full battery management system and internal trip protection				
Battery Chemistry	Lithium Iron Phosphate (LiFePO4)				
Cell Form Factor	Large Format heavy-duty prismatic cells of 200Ah each and 3,2V nominal voltage, fully sealed in aluminium casing with laser welded electrode connections				
Battery Cooling	Natural convection (heat generation is negligible inside the battery)			Fan and louver cooling solution	
Suitable Ambient Temp [°C] ⁴	0°C to +35°C				
Extreme Operating Temp [°C]	-20°C to +60°C				
Warranty ⁵	Standard Warranty: 10 years (or 6000 cycles) 80% DoD, 0.5C Max Discharge, 0.25C Max Charge, Max 25°C				
Service Life ⁵	> e.g. 16 years (>5500 cycles) expected life at 80% DoD per cycle, >20 years (>7500 cycles) at 50% DoD				

Notes to Specification Sheet

The LITE Commercial high voltage range is available in two variants, namely the HV and HV+. The HV models are suitable for the ATESS HPS range of hybrid battery inverters and the HV+ is suitable for the PCS range of battery inverters and associated PBD DC.

- The maximum values given apply to both charge and discharge. For systems requiring more power, two or more batteries must be installed in parallel. Max current duration 5min every 10min. 1.5 x Max overload can be handled for 5 seconds. Current limits rated for 10°C to 25°C battery temperature. De-rating will apply outside this temperature range.
- Excluding protrusions.
- Fly Leads 4.0m long as standard, power cable Red = Positive, Black = Negative, conductors in table refer to one electrode i.e. per positive and negative connections. Up to 8m long available at extra cost (must be specified in order). Note that the fly leads exit the battery on the right-hand side near the floor on all the LITE Commercial HV and HV+ models. This is to suit the bottom entry of the floor standing ATESS inverters. A cable trench is recommended for routing this cable along with all the other cables going to and from the inverter (a cable tray is an alternative).
- Charging below 0°C not permitted. Extended time above 35°C not recommended for optimal battery life.
- See Freedom Won Warranty document for further detail.
- Max current duration 5min every 10min. 1.5 x Max overload can be handled for 5 seconds. Current limits rated for 10°C to 25°C battery temperature. Derating will apply outside this temperature range.

DISTRIBUTORS AND RESELLERS

Contact your nearest Accredited Freedom Won Distributor or Reseller Installer for further sales and technical support.

Plug into The Current Future

www.freedomwon.co.za