

Li^{TE} Commercial 52V Range

Li^{TE} Commercial 500/400

Total Energy Capacity [kWh]	500
80% DoD Energy [kWh]	400
90% DoD Energy [kWh]	450
Current Capacity [Ah]	10 000
Max. Cont. Charge and Discharge Current ¹ [A]	2 800
Max & Cont. Charge and Discharge Power ¹ [kW]	140
Nominal Voltage ² [V]	52
Max. Inverter Cap. [kVA]	135
Total Weight [kg]	4 400
Height [mm]	1 450
Depth (from wall)[mm]	725
Length (width along wall)[mm]	3 461
DC Connection – Fly Leads, [no. per electrode] ³ [mm ²]	6×120
Round Trip Efficiency	96–97%
Enclosure	3mm thick Aluminium, powder coated, tamper proof, indoor use
External Interface	CAN Bus
On-board Management	Comprehensive battery management system and internal trip protection
Human Interfaces	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
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
Battery Chemistry	Lithium Iron Phosphate (LiFePO ₄)
Cell Form Factor	Large Format ultra-heavy-duty prismatic cells of 200Ah each and 3,2V nominal voltage, fully sealed in plastic casing with bolt on electrode connections
Battery Cooling	Natural Convection (heat generation is negligible inside the battery)
Suitable Ambient Temp [°C]	0°C to +40°C
Extreme Operating Temp [°C] ⁴	-20°C to +60°C
Remote Monitoring	Real time data logging and transmission via WiFi to online portal of key battery information
Warranty ⁵	10 years or 4 000 cycles for average 80% DoD, and max 90% DoD
Service Life – Cycles & Years	>16 years (>5 500 cycles) expected life at 80% DoD per cycle, >20 years (>7 500 cycles) at 50% DoD

Notes to Specification Sheet

- 1 The maximum (peak) and continuous current and power ratings are the same for the Li^{TE} Commercial battery range. The maximum values given apply to both charge and discharge. For systems requiring more than 140kW, two or more batteries must be installed in parallel.
- 2 For higher battery voltages refer to the Freedom Won Li^{TE} Commercial HV and HV+ ranges.
- 3 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 5m long available at extra cost (must be specified in order). Note that the fly leads exit the battery on the right end side near the top.
- 4 Charging below 0°C not permitted. Extended time above 45°C not recommended for optimal battery life.
- 5 See Freedom Won Warranty document for further detail.

Note: All models are available fully built ex-factory. If you require the battery to be assembled on site for logistical reasons relating to the battery weight, please specify in the order (additional costs will apply)

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