



SPBES Specification Sheet



Lithium Industrial Batteries

All SPBES systems use the same form factor and are backed by industry leading safety, performance, and recycling systems. CellCool™, ThermalStop™ and CellSwap™ provide ideal operating conditions, thermal runaway prevention and best industry value.

Titanate 35 (T35) is the flagship lithium battery from SPBES. Designed for ultra high discharge rates and extreme cycle life, the T35 is the ultimate powerhouse for your industrial application.

Power 65 (P65) is designed for high discharge power applications requiring high C-rates and faster cycling, the system provides 15,000 charge/discharge cycles at 80% DoD.

Energy 88 (E88) has been designed for applications requiring lower discharge rates and greater energy density. A decrease in cost and weight provides the end user with a faster path to ROI and decreased footprint and weight.

General SPBES Features	Specifications
BMS (Battery Management System)	MegaWatt ++
IMS (Information Management System)	API Interface
Engineered Design Life	5/10 year
CellCool™ Liquid Cooling	Yes
TCP Ultra Fast Internal Comms	Yes
Thermal-Stop™ Thermal Runaway Protection	Yes
E-Vent™ Safety Venting System	Yes
Operating Temperature (active heating/cooling)	15°C to 30°C
Operating Ambient Temperature Range	-40°C to +60°C
Internal Active Working Temperature	20°C to 25°C
Series Configurable	Yes
OnPoint™ Remote Active Monitoring	Yes
OnPoint™ Remote Active Programming	Yes
Parallel Configurable (capacity scalable)	Unlimited
System Voltage Range	300V to 1500V

*Specifications subject to change



Experience

Over 17MWh of installed systems. PBES batteries power the world's largest electric ferries, workboats and industrial machinery.



Liquid Cooling

Precisely manages internal cell and battery temperature to provide greater safety and best in class cycle life.



CellSwap

Replace only the cells at end of system life instead of the whole system.





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System Specifications for the SPBES Lithium Industrial Batteries

Single Module (BBU)	Titanate 35	Power 65	Energy 88
C Rate RMS (Continuous)	4C	3C	1.4C
Cycle Life @ 80% DoD	90000 cycles	15000 cycles	TBA
Cell Chemistry	LTO	NMC	NMC
Dimensions	L 580mm, H 380mm, W 320mm	L 580mm, H 380mm, W 320mm	L 580mm, H 380mm, W 320mm
Weight	90kg	90kg	90kg
Energy	3.5kWh	6.5kWh	8.8kWh
Capacity	60Ah	75Ah	100Ah
Voltage Range	44 - 64VDC	77-100VDC	77-100VDC
Nominal Voltage	54 VDC	88.8VDC	88 VDC
RMS Continuous Current	240A	225A	140A
Max Discharge Current	450A	450A	200A
Max Charge Current	450A	225A	100A
Connectors	IP67	IP67	IP67
Terminal Isolation at Module	Contactorm	Contactorm	Contactorm
Thermal-Stop™ Thermal Runaway Protection	Yes	Yes	Yes
Self Discharge Rate/Month	<2%	<2%	<2%
Internal resistance	13mΩ	17mΩ	13mΩ
Efficiency (at 1C)	>99%	>98%	>98%
Electrical Isolation	Open circuit when not in operation	Open circuit when not in operation	Open circuit when not in operation

Series String (1000V)	Titanate 35	Power 65	Energy 88
Dimensions (including racking, venting and lifting apparatus)	W 1303mm, H 2550mm, D 632mm	W 896mm, H 2550mm, D 632mm	W 896mm, H 2550mm, D 632mm
Weight	1650 kg	950 kg	950 kg
Energy	56kWh	65kWh	88kWh
Capacity	60Ah	75Ah	100Ah
Voltage Range	710 - 1000VDC	770-1000VDC	770-1000VDC
Nominal Voltage	864 VDC	888VDC	880VDC
RMS Continuous Current	240A	225A	140A
Max Discharge Current	450A	450A	200A
Max Charge Current	450A	225A	100A
Internal Resistance	205mΩ	180mΩ	128mΩ
Electrical Isolation at DC Bus	Breaker	Breaker	Breaker
Integrated Racking System	Included	Included	Included
Communication to Higher Level System	Modbus/TCP	Modbus/TCP	Modbus/TCP

*Specifications subject to change

