PowerBrick+

48v Lithium-Ion battery pack

PowerTech systems

48V battery pack - Lithium Iron-Phosphate ($LiFePO_4$) - 105Ah

- **High Service Life : 3000 cycles** and more (see chart)
- **Deep discharge** allowed up to 100 %
- Ultra safe **Lithium Iron Phosphate** chemistry (no thermal run-away, no fire or explosion risks)
- **Embedded BMS** (Battery Management System) **: improve lifespan AND secure the battery**
- No **Lead**, no **rare earths**, no **acid, no degassing**
- Calendar life **> 10 years**
- Excellent **temperature** robustness (-20 °C up to +60 °C)
- **Flexible** deployment : up to 16 packs in parallel
- **Constant power** during discharge (very low internal resistance)
- **Very low Peukert's losses** (energy efficiency of 98 %)
- **Very low self discharge** (<3 % per month)
- **No memory effect**
- About **50 % lighter** and **40% smaller** than equivalent Lead-AGM battery with same usable energy
- **Certification : CE, RoHS, UN 38.3**

Technical Specifications

Electric	Nominal voltage / Nominal capacity	51.2V / 105Ah
	Stored energy	5.38 kWh
	Volumetric energy density / Specific energy	207.5 Wh/L / 147.4 Wh/Kg
	Internal resistance	≤ 50 mΩ
	Cycles	>3000 cycles (see chart)
	Self discharge	< 3% per month
	Energy efficiency	98 %
Standard Charge	Charge voltage	57.6 V ± 0.8V (Optional floating voltage : 53.44V max)
	Charge mode	CC/CV : Constant Current / Constant Voltage
	Continuous charge current / Maximum charge current	50 A / 100 A
	BMS charge cut-off voltage	59.2 V ± 0.4V
Standard Discharge	Instant peak discharge current	500 A ± 50 A (max 280mS)
	Continuous discharge current	120 A (6.14 kW)
	Maximum discharge current (< 30s)	200 A (10.24 kW)
	BMS discharge cut-off voltage	40 V
Environment	Charge temperature range	0°C to +60°C
	Discharge temperature range	-20°C to +60°C
	Storage temperature	0°C to +50°C @60±25% relative humidity
	IP protection level	IP 65
Mechanical	Type of cells	Prismatic
	Casing material	ABS
	Dimensions	L : 500mm (520mm) x W : 239mm x H : 217 mm
	Weight	36.5 kg
	Terminal	M8 bolt

APPLICATIONS

- Electrical vehicules and utilities
- Robotics and AGVs
- Solar and wind energy storage
- Marine
- Street lightning
- CCTV and security camera
- UPS, electric back-up
- Telecom
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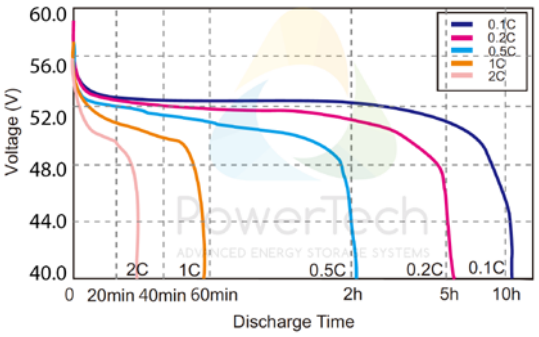
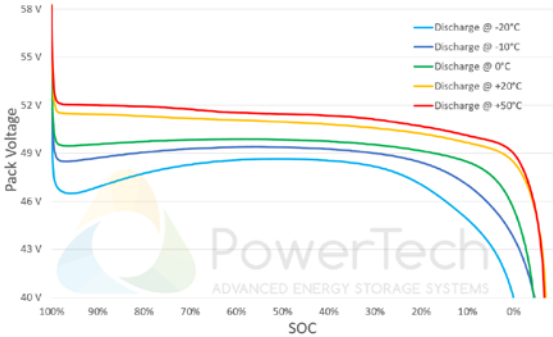
Charts and curves

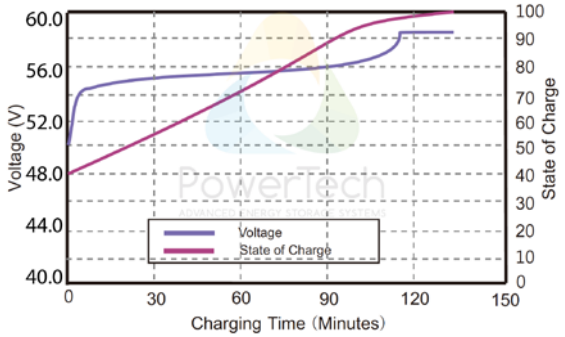
Different Rate Discharge Curve @25℃



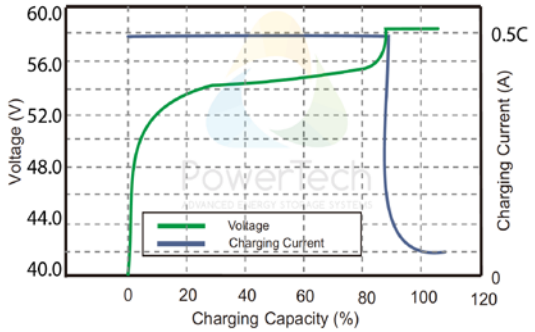
Discharge Curves (0.5C) at different Temperatures



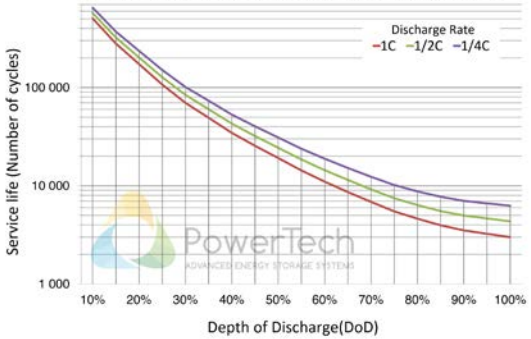
State of Charge Curve @0.5C 25℃



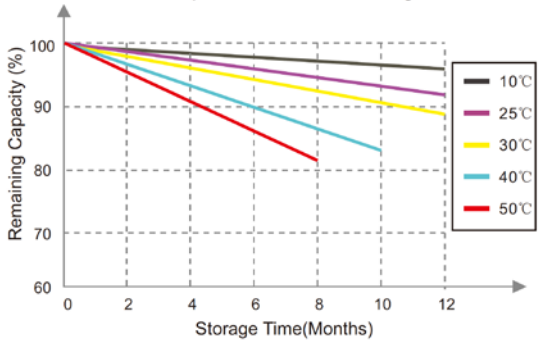
Charging Characteristics @0.5C 25℃



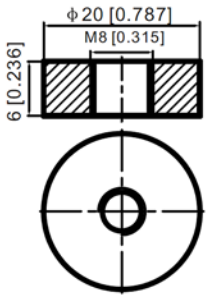
Number of cycles vs. Depth of discharge (DoD)

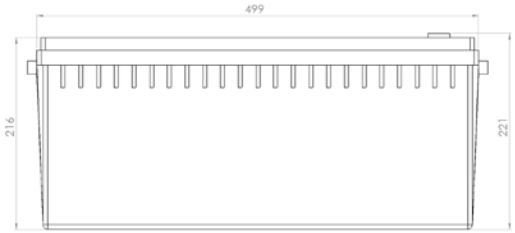


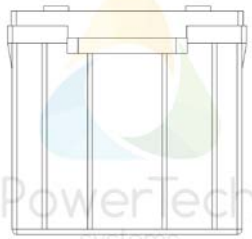
Different Temperature Self Discharge Curve



Dimensions







PowerTech systems

V1.5

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