



# Power Brick

Solid State

Lithium-Ion battery

CAN + RS485



## 48V Solid-State battery pack - LiFePO<sub>4</sub> - 53Ah - 2.71kWh

- **High lifespan: 4500 cycles** and more (see chart)
- **Communication by CAN Bus + RS 485** to retrieve all aggregated informations from battery pack (**up to 16 packs in parallel**)
- **New Solid-State cell technology** for better performance and safety
- **Active Balancing** for fast, efficient cell voltage equalization
- **Remote monitoring by Bluetooth** (SOC, cell voltage, SOH, etc.)
- **Fast recharge** in less than one hour
- **Ultra safe Solid-State Lithium Iron Phosphate** chemistry (no thermal run-away, no fire or explosion risks)
- **Embedded BMS** (Battery Management System) : **improve lifespan and safety of the battery**
- **Strict cell matching** for pack consistency. Laser cell welding
- **Cell heating system** for use in cold conditions
- **Precharge system** for high capacitance loads
- No **Cobalt**, no **Manganese**, no **Nickel**, no **rare earth**
- Calendar life > **10 years**
- Excellent **temperature** robustness (-20 °C up to +60 °C)
- **Constant power** during discharge (very low internal resistance)
- **Very low Peukert's losses** (energy efficiency >98 %)
- **Very low self discharge** (<3 % per month)
- **Deep discharge** allowed up to 100 %
- **No memory effect**
- About **50 % lighter** and **40% smaller** than equivalent Lead-AGM battery with same usable energy
- **Certification** : CE, RoHS, UN 38.3, Cell : IEC 62619

## Technical Specifications

Electric	Nominal voltage / Nominal capacity	51.2 V / 53Ah
	Stored energy	2714 Wh
	Volumetric energy density / Specific energy	121.0 Wh/L / 142.8 Wh/Kg
	Internal resistance	≤ 10mΩ
	Cycles	> 4500 cycles (see chart)
	Self discharge	< 3% per month
	Energy efficiency	> 98%
	Standard Charge	Charge voltage
Charge mode		CC/CV : Constant Current / Constant Voltage
Continuous charge current / Maximum charge current		80A / 100A
BMS charge cut-off voltage		59.2 V ± 0.4V
Standard Discharge	Instant peak discharge current	600A (300 ms)
	Continuous discharge current	80A
	Maximum discharge current (< 30s)	120A
	BMS discharge cut-off voltage	40V
Environment	Charge temperature range	0°C to +55°C
	Discharge temperature range	-20°C to 60°C
	Storage conditions	0°C to +50°C @60±25% relative humidity
	IP protection level	IP65
Mechanical	Type of cells	Solid-State LiFePO <sub>4</sub> cells
	Casing material	ABS
	Dimensions	505x185x242 mm
	Weight	19.0 kg
	Terminal	M8 for power - IP67 M12 connector for CAN / RS485



Active Balancing



Solid-State Technology



CAN BUS



RS-485



HEATER

## APPLICATIONS :



Electrical vehicles and utilities



Industrial carts and forklifts



Marine applications



Street lightning



CCTV and security camera

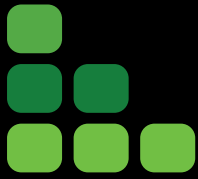


Robotics and AGVs



Solar and wind energy storage

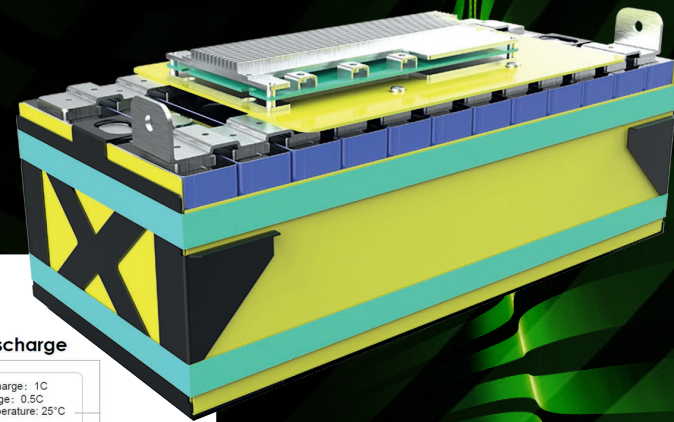
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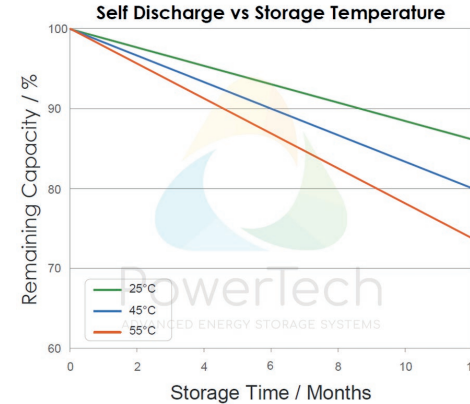
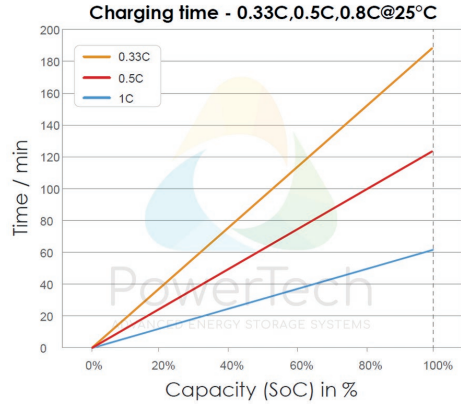
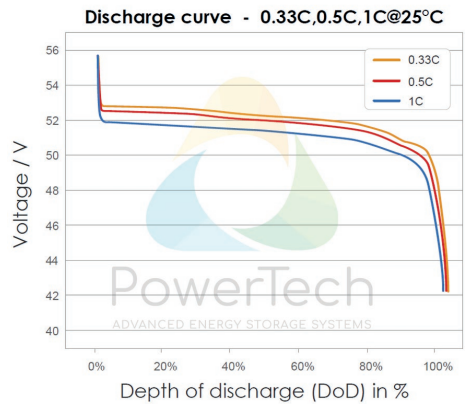
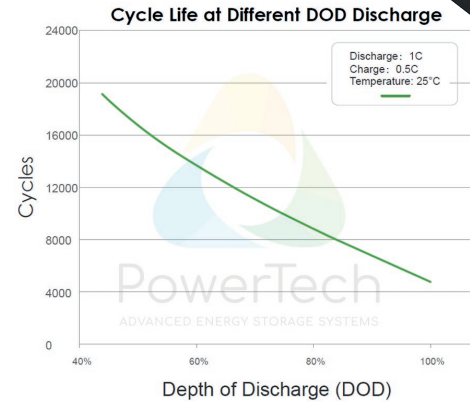
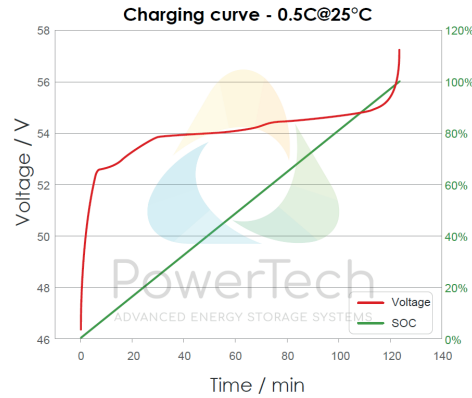
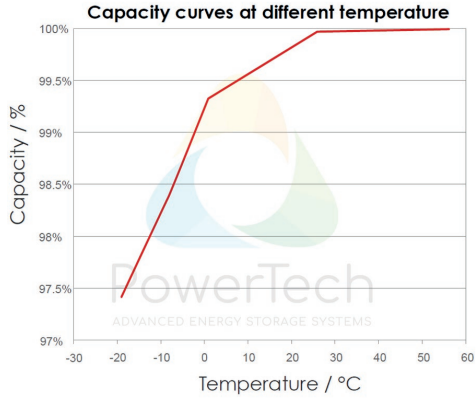
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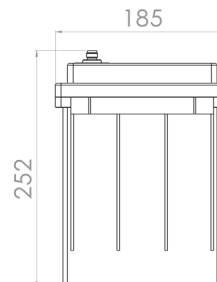
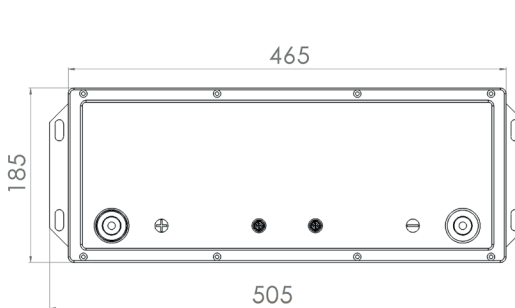
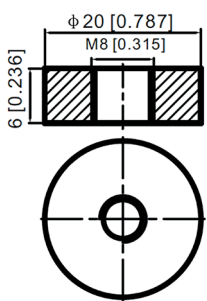
CAN + RS485







## Charts and curves



## Dimensions



-  **Solid-State Technology**
-  **Active Balancing**
-  **CAN BUS**
-  **RS-485**
-  **HEATER**



PowerTech systems

V1.5

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