

# RETHIUM POWER TECH LLP

*Battery Solution For Better World*



## PRODUCT CATALOGUE

# RPTFP48EV

**Registered Office:**

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AAF-9295 GST ID: 29AATFR7801D1ZV

## RPTFP48EV

### BATTERY PACK

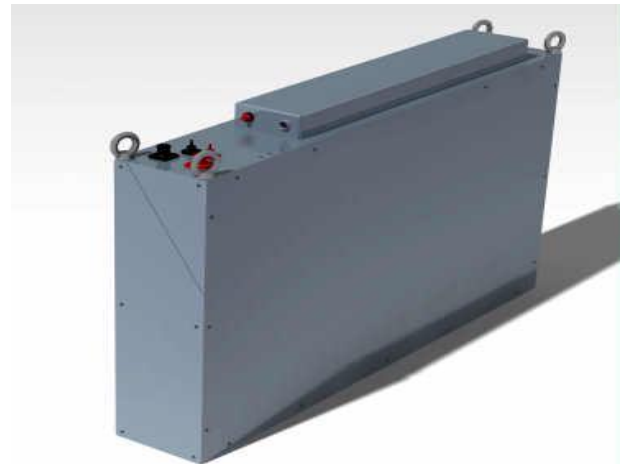
Each battery pack embeds a Lithium Ferrous Phosphate (LiFePO<sub>4</sub>) battery plus an internal BMS which communicates and controls its own operations.

- a. Cell temperature & resistance
- b. Low voltage cut-off
- c. High voltage cut-off
- d. High balancing current
- e. Communication

### Key features:

- “Plug-and-Play” and flexible system
- Easy and quick deployment
- Smart monitoring and management
- Safe and robust technology
- CAN BUS communication
- High balance current  $\leq 1A$

### Application



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### SPECIFICATION:

Nom. Voltage	48V DC	
Max. Voltage	53.25V DC	
Min. Voltage	42V DC	
Rated Capacity	100Ah/ 200Ah/ 300Ah/ 500Ah	
Rated Energy Contents	4.8kWh/ 9.6kWh/ 14.4kWh/ 24kWh	
Max. Continuous Discharge Current	1C	
Max. Continuous Discharge Power	1P	
Standard Discharge Recommended	0.5C	
Standard Discharge Power	0.5P	
Peak Discharge Current (10 sec)	10C	
Peak Discharge Power	10P	
Standard Charge Current	≤0.5C	
Standard Charge Power	≤0.5P	
Re-Gen Braking Current	Allowed	
Balance Current	≤1A	
Cycle life	2500 cycles to 100% DOD @25°C ±2°C @0.5C	
Operating Temperature	Charging	0 ~ 10°C @ <0.2P
		10 ~ 35°C @ 0.5P
		35 ~ 45°C @<0.5P
	Discharging	0 ~ 55°C

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Storage Temperature SOC @>50% (Follow the given SOP)	-20 ~ 25°C	1 Year
	-20 ~ 35°C	6 Months
	-20 ~ 45°C	3 Months
	-20 ~ 60°C	< Week
Communication	CAN 2.0	
Over Current Protection	Allowed	
Power Consumption of the BMS "ON" Mode	~ 20mA	
Power Consumption of the BMS "Off" Mode	~ 20µA	
Cell Certificate	CE, UN38.3	

### Parameters monitored through CAN communication

Self test error	Automatic check of the measurement of the cells, which runs during every activation of the system In case that the number is higher than 0, then the number represent the number of the cell with an issue In case of no issue, then the number is 0
System status	<ul style="list-style-type: none"> <li>1 – N/A</li> <li>2 – N/A</li> <li>3 – BMS is running</li> <li>4 – Discharging is allowed</li> <li>5 – Charging is allowed</li> <li>6 – Balancing is running</li> <li>7 – Warning status is broadcasted</li> <li>8 – Error status is broadcasted</li> </ul>
System caution	<ul style="list-style-type: none"> <li>1 – Low capacity</li> <li>2 – Low voltage</li> <li>3 – N/A</li> <li>4 – N/A</li> <li>5 – High temperature of the battery</li> <li>6 – High temperature of the environment</li> <li>7 – High temperature of the PCBA</li> <li>8 – N/A</li> </ul>

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System warning	1 – Warning zero capacity 2 – Warning low voltage of the cell (under the CUTT OUT voltage) 3 – Warning discharging current from battery exceeded (current fuse) 4 – Warning charging current exceeded (charging fuse) more than 10% 5 – Warning temperature of the battery exceeded 6 – Warning temperature of the ext exceeded 7 – Warning temperature of the PCBA exceeded 8 – Maximum cell voltage had been exceeded
System error	1 – Error during the selftest 2 – Overcharged battery 3 – System error (error of the amount of the battery cells during the communication) 4 – Voltage of the cell is 100 mV less, than the CUTT OFF voltage 5 - Error temperature of the battery 6 – Error temperature of the environment 7 – Error temperature of the PCBA 8 – Error temperature of the balancing resistors

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### PERFORMANCE

- Output with high rate. Instantaneous impulse discharge current can reach 10C for 10 seconds.
- Good performance at high temperature.
- Good performance at low temperature.
- Good safety performance. When the pressure inside the battery is too large, the one-way safety valve will release gas and heat to make sure battery works well. When the internal pressure reaches a certain level, the valve will be open immediately which can protect the battery from burning and explosion.
- Good cycle life. The discharge capacity is still over 80% after 3000 cycles of charge and discharge (80%DOD).
- Fast charging. It can be charged to 80% within 0.5h and charged full within 1h.
- Environmentally friendly. No pollution during production and usage.

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