PRCapTECH

Version number: A0

S144V7-K111

Specifications

Specification for 4P36S build

1. Product Overview

Supercapacitors have the advantages of high power density, fast charging, long cycle life, high energy density, wide operating temperature range and long storage life. With outstanding advantages such as high reliability, cleanliness and environmental protection, this technology is particularly suitable for short-term high-power output and applications requiring fast charging. The contradiction between high specific power and high specific energy output of energy storage devices has been solved. Hybrid Supercapacitors are one of the ideal environmentally friendly energy storage devices in the 21st century.

This hybrid supercapacitor technology has already shown attractive application outcomes in industries such as power vehicles, urban buses, mining locomotives, and rail transportation. The high power and high energy characteristic allows for absorption of electric braking energy – this regenerative energy capture can achieve significant energy savings.

Based on the new supercapacitor module structure and thermal model characteristics, this product focuses on high grouping flexibility, light weight, low cost, high safety and high environmental adaptability.

In order to meet the requirements of battery performance, combined with the mainstream battery box design scheme on the market, our company has designed this hybrid supercapacitor based standard module which can plug and play with other modules and master control box to additionally stack in parallel and series combinations for higher voltage, power or energy as needed .

Based on the high degree of experience and learning from prior supercapacitor module structure and thermal modelling and empirical measurement characteristics, the new module design centers on the requirements of speedy assembly rate, light weight, low cost, high safety and high environmental adaptability. These considerations, also combined with the mainstream battery pack design scheme on the market, has reduced product weight and vehicle installation layout space compared to the previous generation of supercapacitor modules made by us. At the same time, the new capacitor module assembly process and aluminum alloy box manufacturing process facilitates automated production, and shortens the delivery cycle.

2. Electrical parameters

Model Type	S144V7-K111
Overall Dimensions (mm)	1036 x 750 x 145
Volume (m^3)	0.113
Weight (kg)	125
Cell Type	UCK42V20000
Cell Connections (P:parallel; S:Series)	4P36S
Nominal Capacity (Farads)	2400
Rated Operating Voltage Range (V)	90 – 144
Surge Voltage (V)	151
Stored Energy in operating voltage range (kWh)	4.2
Maximum Charge/Discharge Current (A)	464
Cycle Life	10 years or 100,000 cycles
Operating Temperature (^oC)	-20 C to +55C
Storage Temperature (^oC)	-25C to +55C
Battery Management System	Automatic equalization, cell voltage monitoring, module temperature monitoring
Cooling mode	Liquid Cooling

3 Mechanical Parameters

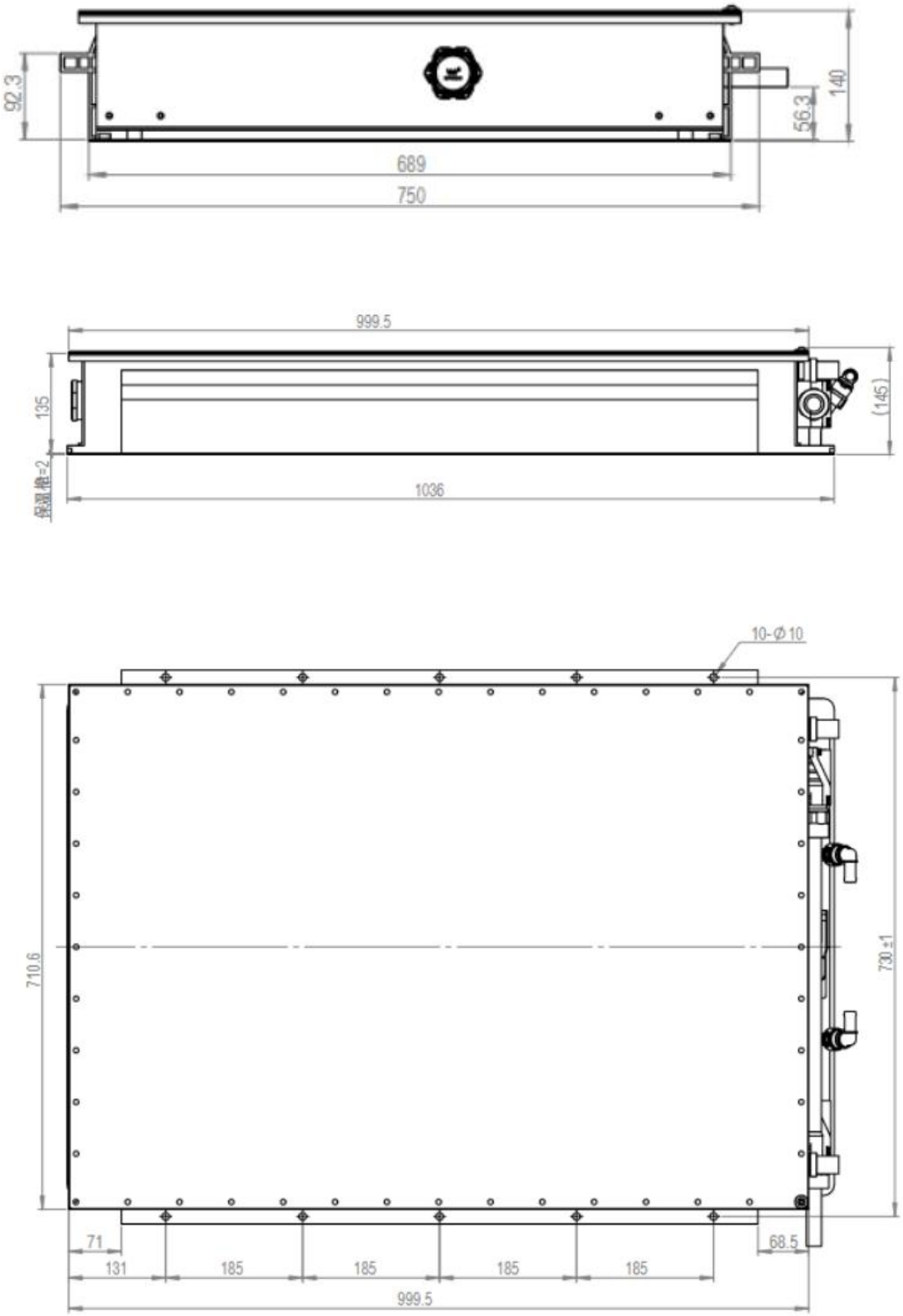


Figure 1 Dimensions (mm)

4. Additional Notes

This product needs to be used with the high voltage distribution box (PDU) provided by our company.

This product can be further assembled with other units in the direction of box height. It is recommended to use the standard mounting bracket provided by our company.

The cooling unit of this product can be provided by our company, or the user can prepare it by himself after our company provides technical parameters. The liquid cooling circulation medium can be selected

The antifreeze should be suitable for aluminum liquid cooling plates, anti-corrosion, anti-rust, and descaling. The freezing point of the selected antifreeze should generally be lower than the local minimum freezing point.

When the low temperature is above 10C-15C, the main ingredients are ethylene glycol + water, and the antifreeze of the same brand should be used.

The cooling unit of this product can be provided by our company, or the technical parameters provided by our company, the user's own, liquid cooling circulation medium selection of antifreeze should be suitable for aluminum liquid cooling plate, anti-corrosion, anti-rust, descaling, the freezing point of the selected antifreeze should generally be lower than the local minimum temperature of 10C-15C above, the main ingredient is ethylene glycol + water, should use the same brand of antifreeze.

For the latest product information, please call: +1 5183318078.