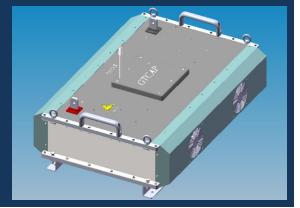


# Datasheet

## 75V 200F Ultra Capacitor Module for Energy Storage



# GTSM-75V-200FUTHF



### FEATURES AND BENEFITS

- Compact, firm, force-air cooling
- Highest power performance
- Individually balanced cells
- Over 1,000,000 duty cycles
- Ultra-low internal resistance

### TYPICAL APPLICATIONS

- Electric bus
- Micro grid system
- Industrial unit
- Solar power system
- UPS

### SPECIFICATIONS

#### ELECTRICAL

##### Capacitance

Nominal capacitance	200 F
Capacitance tolerance	0%~20%

##### Voltage

Rated voltage	75 V
Maximum absolute voltage	81 V
Maximum series voltage	750 V

##### Resistance

ESR, DC	6.5 mΩ
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##### Current

Maximum continuous current(25°C)	200 A
Maximum peak current, 1sec	3200 A
Leakage current (after 72hrs @25°C)	20 mA

#### TEMPERATURE

##### Operating Temperature Range

(Cell case temperature)	-40°C ~ +65°C
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##### Storage Temperature Range

(Storage uncharged)	-40°C~ +70°C
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#### PHYSICAL

Weight	83KG
Terminal	through hole
Recommended Torque - Terminal	M8/M10
Vibration Specification	GB-T 11287-2000
Shock Specification	GBT 14537-1993
Environmental Protection	IP45

#### MONITORING

Internal Temperature Sensor	NTC Themistor (normally closed)
Cell Voltage Monitoring	neutral point voltage

#### POWER AND ENERGY

Usable power density (Pd)	1251 W/kg
Impedance match power (Pmax)	2606 W/kg
Gravimetric energy density (E <sub>max</sub> )	1.88 Wh/kg
Energy available	156.2 Wh

#### LIFE

##### High Temperature

(at rated voltage & maximum operating temperature)	1500 hours
--	------------

##### Capacitance change

(% decrease from minimum initial value)	≤30%
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##### ESR change

(% increase from minimum initial value)	≤150%
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##### Room Temperature

(at rated voltage at 25°C)	10 years
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##### Capacitance change

(% decrease from minimum initial value)	≤30%
---	------

##### ESR change

(% increase from minimum initial value)	≤150%
---	-------

##### Cycle Life

(Number of cycles)	1000000 times
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##### Capacitance change

(% decrease from minimum initial value)	≤30%
---	------

##### ESR change

(% increase from minimum initial value)	≤150%
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##### Shelf Life

(Stored uncharged up to a maximum storage temperature)	2 years
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#### SAFETY

##### Short Circuit Current (I<sub>sc</sub>)

(Current possible with short circuit from rated voltage. Do not use as an operating current.)	11000 A
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##### Factory High-Pot Test

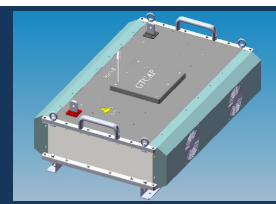
1,500 V/DC
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# Datasheet

## 75V 200F Ultra Capacitor Module for Energy Storage



# GTSM-75V-200FUTHF



### SPECIFICATIONS

#### COOLING SYSTEM

Thermal silica conductivity	2.4W/Mk
Fan rated power	32.4W
Fan rated voltage	12V/DC
Fan run(module temperature)	35±5°C
Fan stop(module temperature)	25°C
Cooling fin material	6063

#### BUILT-IN BLANCE CIRCUIT

Active or passive balance	passive balance
Entire or block balance	block balance
NTC alarm temperature	alarm temperature(NTC)
Data output offer socket and plug terminal	DTM06-4S/DTM04-4P
Fan output terminal	JF6-2.5

#### SHELL DIMENSIONS AND PHYSICAL SPECIFICATIONS

Material	cold-roll steel sheets 08F
Top plate thickness	cold-roll steel sheets 1mm
Handle's screw hole size	2-M6
Handle's screw hole level	8.8
Handles material	aluminium alloy
Extraction electrode torsion	positive 20Nm/negative30Nm
Extraction electrode hole size	positive $\Phi 8.5$ /negative $\Phi 10.5$
4 lifting rings material	20# steel, pre-heated
Lifting rings size	$\Phi 20$
Lifting rings level	M8-8g( single ring steadily lift 0.16T)

### DESCRIPTION OF DESIGN

#### 1. MAIN FEATURE

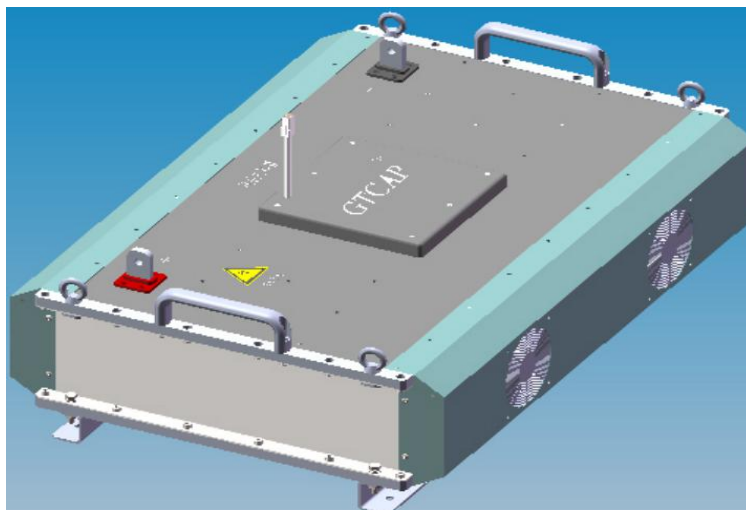
A module consists of 3000F cell super capacitors(2 parallel connected and 30 series connected) installed inside a hard aluminum shell. Every cell super capacitors connected with PCB to balance working voltage when charging which helped module working safe. A module has voltage arrange unit inside to monitoring if there is any cell overvoltage. One signal which output through the module open collector will appeared if one cell overvoltage when charging. The module also have a temperature detect terminal, NTC theorist used to monitoring module temperature.

Module go with cooling fan and fin which ensured good heat-sinking capability.

Fan of system: Require 12V external power supply, on the fan top is AMP282104-1 plug which need to go with AMP282080-1 socket.

#### 2. STRUCTURE DESGIN

Module shape as followed picture shows:

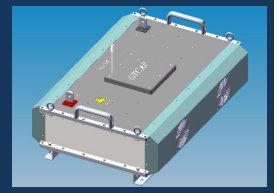


# Datasheet

75V 200F Ultra Capacitor Module for Energy Storage

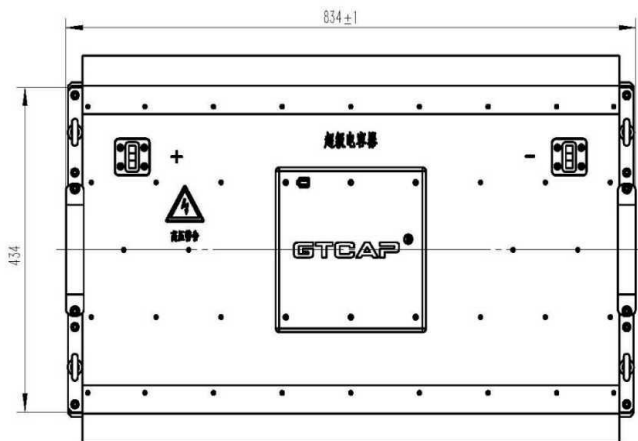
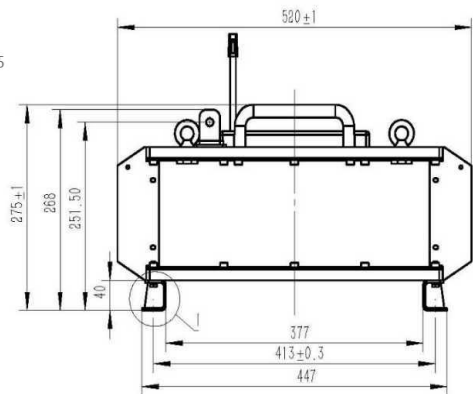
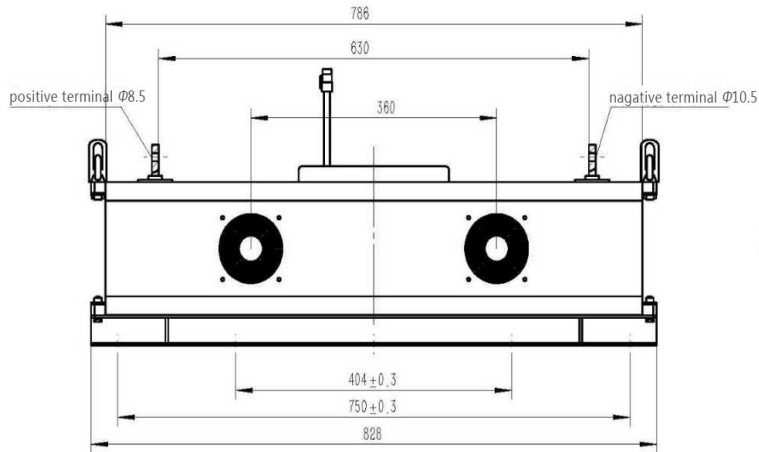


## GTSM-75V-200FUTHF



### DESCRIPTION OF DESIGN

#### 3. Module Dimensions

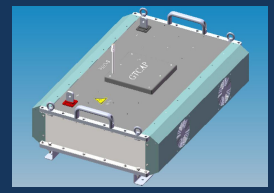


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75V 200F Ultra Capacitor Module for Energy Storage

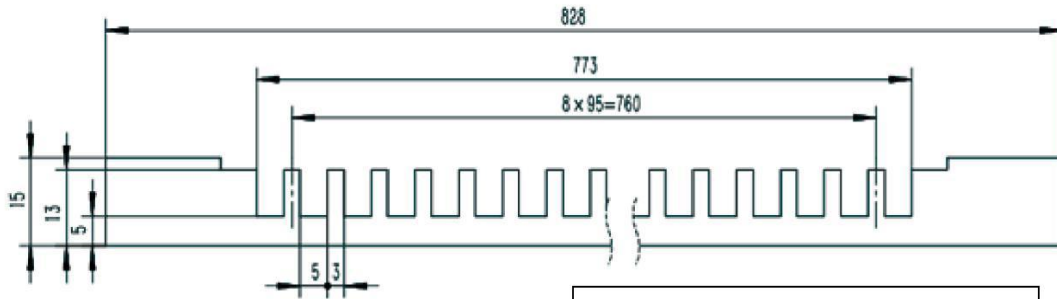


## GTSM-75V-200FUTHF



### DESCRIPTION OF DESIGN

#### 4. Cooling Fins Sketch & Dimensions



Cooler Specification		
1	cross area S	0.16 m <sup>2</sup>
2	perimeter I	3.1M
3	weight G	9.1KG
4	thermal resistance Rth	0.025°C/W

Remark: thermal resistance Rth theoretical accounted per air volume 5.6M<sup>3</sup>.

