

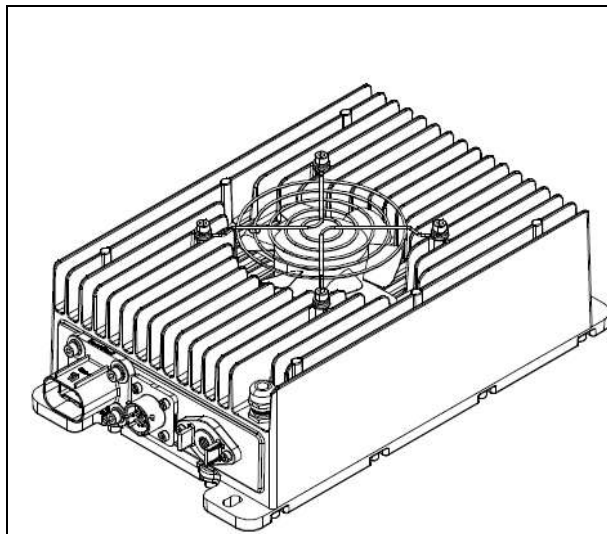


## 2.5KW DC/DC Converter Fan Cooled System

### Product Portfolio

Items	Model No.	Input Voltage Range(Vdc) / Norminal	Rated Output (Vdc/A)	Output Voltage Range(Vdc)	Output Current Range(A)
1.	ATRD2K5-144S14F	80-200 / 144	14/179	0-16	0-179
2.	ATRD2K5-360S14F	200-500 / 360	14/179	0-16	0-179
3.	ATRD2K5-670S14F	400-900 / 670	14/179	0-16	0-179

The nominal voltage including input and output can be adjusted as per requirement.



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### Features

1. Dimensions(mm): 291.2 x 168 x 92.6  
Weight(KG):  $\leq 6.5 \pm 0.5$
2. Cooling System: Fan
3. IP Rating: IP67
4. Communication: CAN2.0 B SAE J1939
5. Enclosure: Aluminum alloy
6. Pre-charge & Isolated: Supported
7. Software: Digital software design
8. Online Upgrade & Fault Diagnosis: Supported

### Specification

Description		Remark
Efficiency	$\geq 93\%$	Rated input voltage, load $> 30\%$
Output Voltage Ripple	$\leq 200\text{mVp-p}$	
Output Voltage Accuracy	$\pm 2\%$	
Quiescent Current	$< 100\mu\text{A}$	Battery current will be consumed in sleep/standby mode

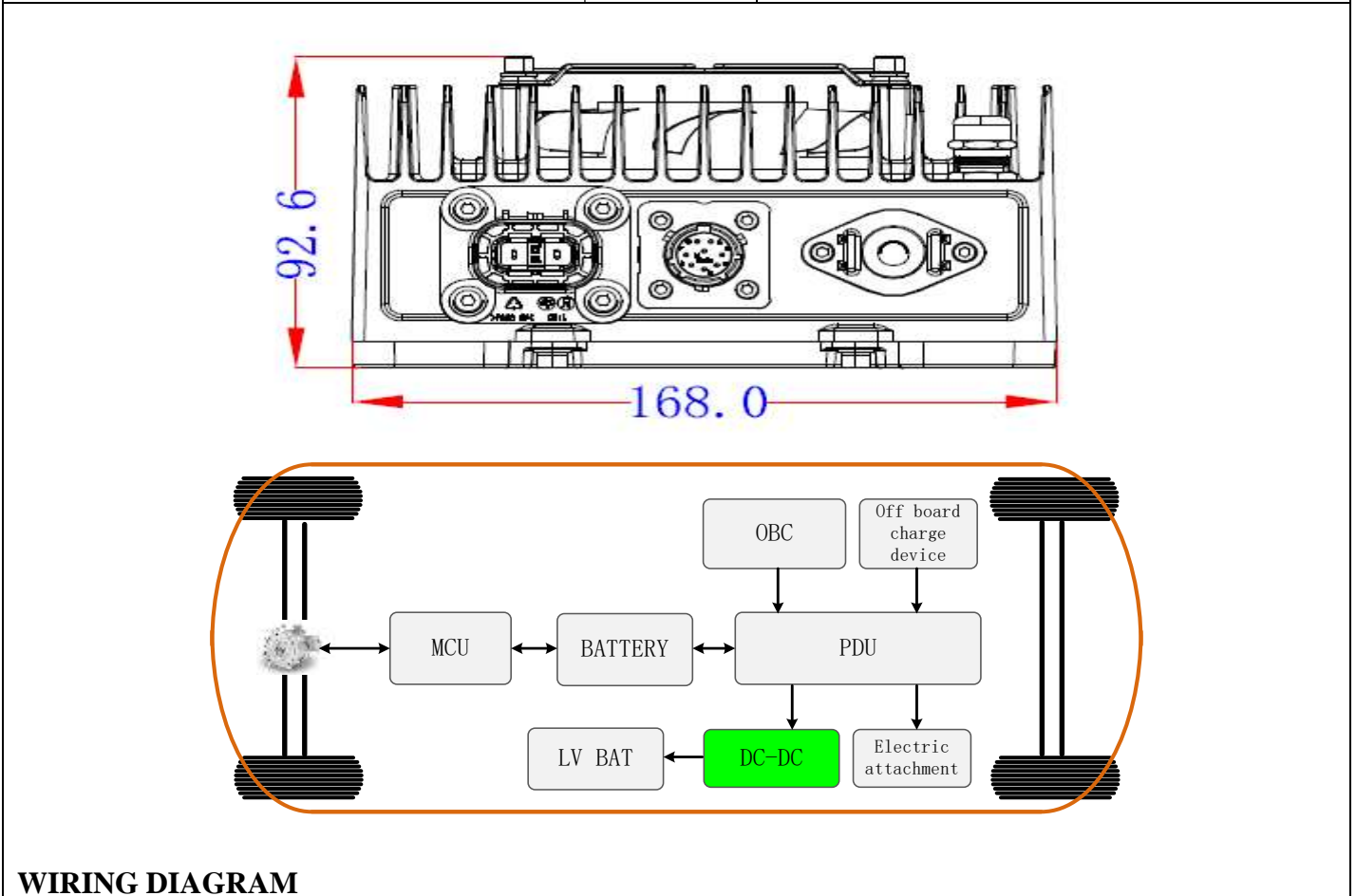
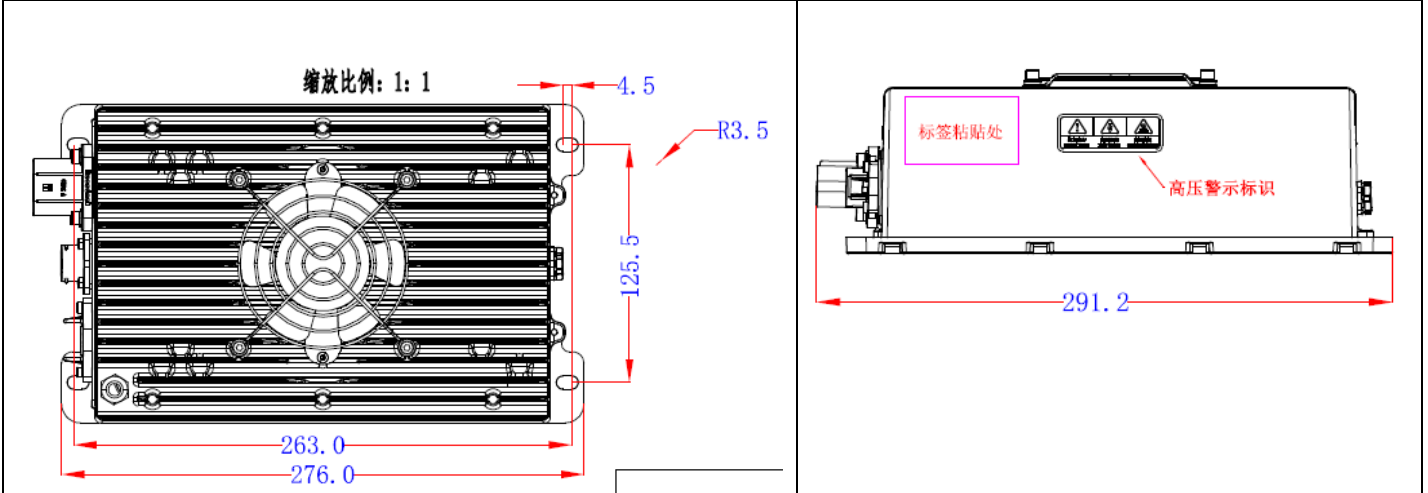
### Operating Environment

The operating environment conditions of this assembly are as follows:

Items	Descriptions		Remark
1.	Operating Temperature( $^{\circ}\text{C}$ )	-40~85	The power will be derated when the temperature exceeds $65^{\circ}\text{C}$
2.	Storage Temperature( $^{\circ}\text{C}$ )	-40~95	
3.	relative humidity(%RH)	5~95	No condensation, no frost
4.	Protection level	IP67	
5.	Cooling method	Fan	
6.	Vibration level	ISO 16750-3,2012 (E)	After X,Y,Z three directions of sweep frequency vibration testing, no damage for parts , no loose for fastening piece
7.	Noise level(dB)	$< 60$	



8.	Salt spray level	GB/T 2423.17	
9.	Altitude(M)Max	3000	GB/T16935.1-2008
10.	Fall	Wiring harness according to QC/T417.1-2001 Housing according to GB/T 2423.8-1995	Appearance, structure and performance are normal
11.	Protection Characteristics	OTP& OVP & UVP& SCP	
12.	Electromagnetic immunity	GB/T17619-1998 chap4	
13.	Electromagnetic disturbance	GB18655-2002chap 12 chap14	



**WIRING DIAGRAM**



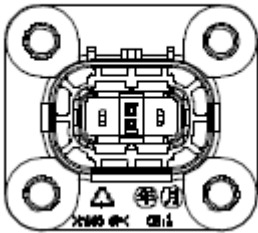
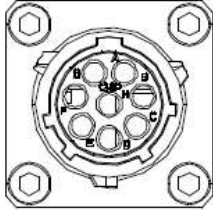
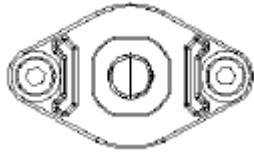
- **Item 1:** Signal control connects to the VCU or BMS.
- **Item 2:** DC input connects to the PDU or battery pack or other devices.
- **Item 3:** DC output (+) connects to the auxiliary battery, auxiliary battery connects to the enclosure for ground protection.

**Note:** The enclosure must be securely mounted onto the vehicle bracket and keep flat position.

Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	HV DC input	RECODEAL	RED- ZM2PAH-2.5-A	RED- TM2PAH-2.5-A
2	Signal control	Amphenol	RT00128PN03	RT06128SNHEC03
3	Output +	GUWEITONG	GH01-F200-1NNB-T21	M8 BOLT

Interface Definition

HV DC Input(1)		Signal Control(2)		Output Positive(3)	
					
1	Input + 2.5MM2	A	CAN H	1	Output +
2	Input -2.5MM2	B	CAN L		
A	HVIL +	C	KL15		
B	HVIL -	D	KL30		
Cable Size: 1/2: 2.5mm2 A/B: 0.75mm2		E	KL31		
		F	HVIL +		
		G	HVIL -		
		H	N/C		
		CABLE SIZE: 0.75MM2		200A 50MM2	

**Cable Current Rating Table for reference only.** The actual current-carrying capacity shall be based on the cable manufacturer's specifications

CURRENT (A)	CABLE SIZE (MM2)	CURRENT (A)	CABLE SIZE (MM2)	CURRENT (A)	CABLE SIZE (MM2)
7	0.75	60	10	250	70
22	2.5	80	16	300	95
25	3	125	25	350	120
30	4	150	35		
40	6	200	50		