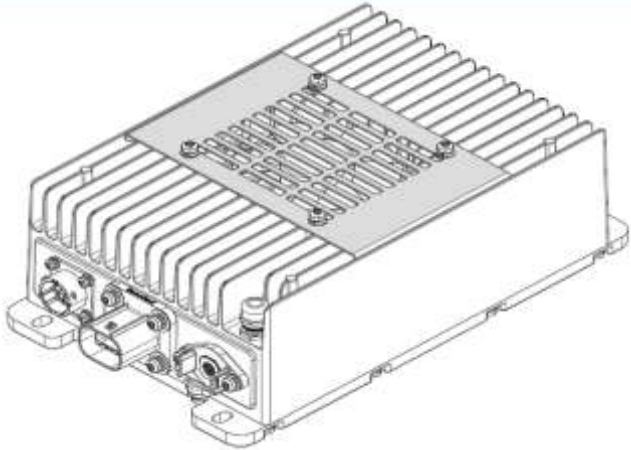




Input 80-110V 3.6KW DC-DC Converter FAN cooled Model No. ATRD3K6-96S24F

Items	Model No.	Input Voltage Range(Vdc) / Normal	Rated Output (Vdc/A)	Output Voltage Range(Vdc)	Output Current Range(A)
5	ATRD3K6-96S24F	80-110 / 24	24/132	20-28	0-132

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

	Features 1. Output Power(KW): 3.6 2. Dimensions(mm): 370 x 273 x 113 3. Weight(KG): $\leq 8.5\text{Kg} \pm 0.5\text{Kg}$ 4. Cooling System: Fan 5. IP Rating: IP67 6. CAN compatibility: CAN2.0B SAE J1939 7. Enclosure: Aluminum alloy 8. Pre-charge & isolated: Supported 9. Software: Digital software design 10. Online Upgrade & Fault Diagnosis: Supported
The enclosure might be changed according to the design status.	

1. Electrical Characteristics

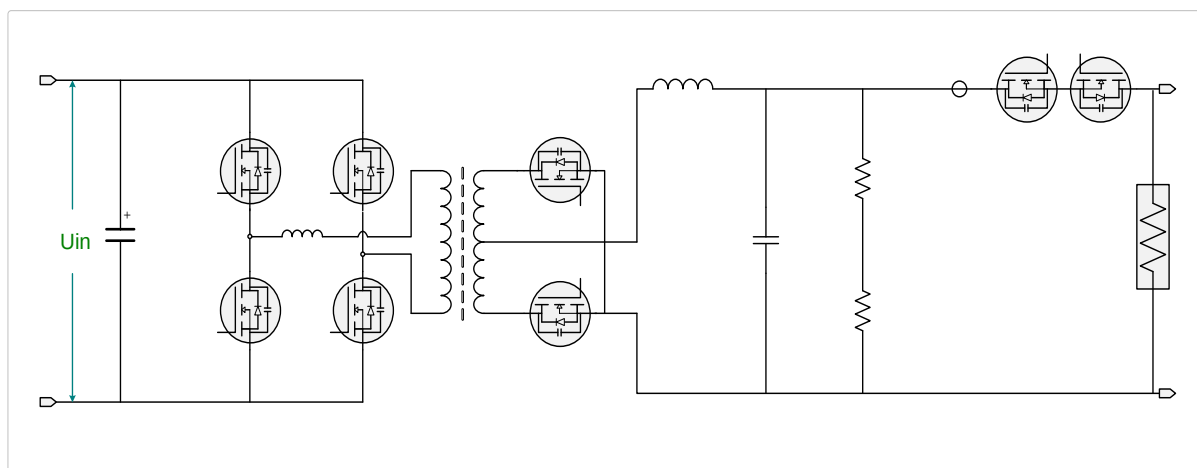
1.1. Electrical Characteristics

On-board power supply type	Self-cooled automotive DC-DC converter	
Enter the properties		
Enter the pre-charge path	Built	
Voltage regulation accuracy	±0.2V（引线根部测试 lead root test）	±0.4V（引线根部测试lead root test）
Output response time	≤200mS	
Typical efficiency	≥92%	
Protection characteristics		
Over- and under-voltage protection	The input over- and under-voltage shutdown can be self-recovering, and the output over-voltage and under voltage shutdown can be self-recovering 。	
Output reverse polarity and short-circuit protection	The output is powered off when it is short-circuited or reversed, and it can be self-recovering	
Over-temperature protection	When the heat sink temperature is higher than 75℃, the output power is reduced, when the temperature is higher than 95℃, the circuit is disconnected, and the charger resumes output when the charging temperature returns to below 85℃	
Environmental conditions		
Operating ambient temperature	-40℃～+85℃	
Storage temperature	-40～95℃	
Humidity	5%~95% no condensation, no condensation	



IP rating	IP67	
Cooling function	Fan-cooling	
Communication features	CAN bus control	
Charging function	Receiving the charging command can charge normally; The no-command charger is in standby	
Safety & Reliability		
Safety & Reliability	Primary edge — secondary edge 2000VAC	Primary Side—Chassis 1500VAC
Insulation resistance	Primary-secondary $\geq 50M\Omega$	
Vibration resistance	After the X, Y, Z three directions sweep vibration test, the parts are not damaged, and the fasteners are not loose	
Impact resistance	See the requirements of 6.5 in GB/T15139-1994	
Resistance to industrial solvents	Metal parts have a good anti-corrosion layer	
Anti-salt spray Performance	See GB/T 2423.17	
Durability	In accordance with the relevant provisions of not less than GB/T 24347-2009	
EMC features		
Electromagnetic immunity	Meet the provisions of Chapter 4 of GB/T17619-1998	
Electromagnetic harassment	See the limits set forth in Chapters 12 and 14 of GB18655-2002	

2.2 Electrical topology diagrams

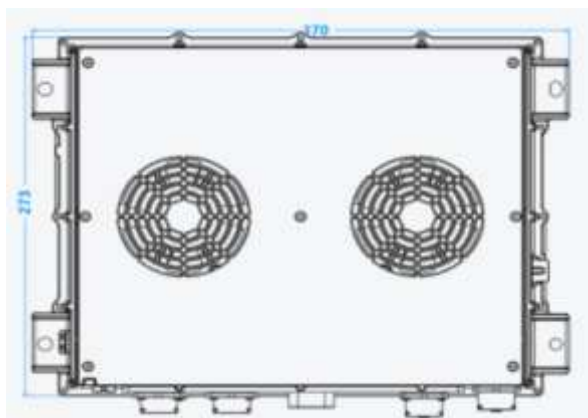




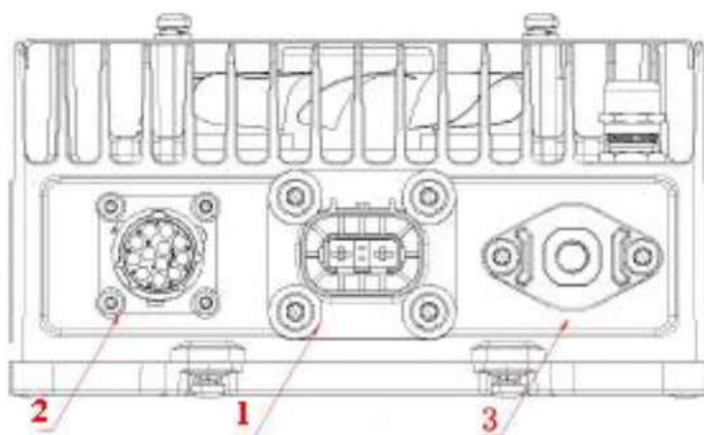
2. Dimensions and weight

3.1 Product Dimensions

Top view



Side view



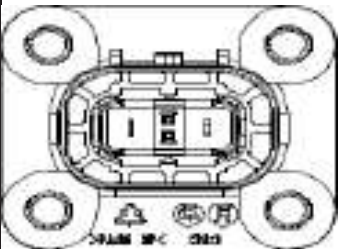
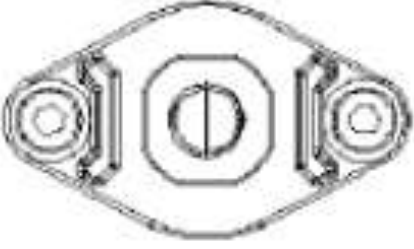
The connectors will be modified after the parameters have been confirmed.

3.2 Product Weight: 8.5Kg±0.5Kg

Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	HV DC input	Recodeal	RED-Z2PAH-2.5-A	RED-T2PAH-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 +	A	CAN L	1	Output +
2	INPUT -	B	CAN H		



Cable Size:
1/2: 2.5mm ² (22A)
A/B: 0.75mm ²

Cable specification:
0.75mm² shield twisted pair
OD= ϕ 11-12.5mm
N/C: No connection

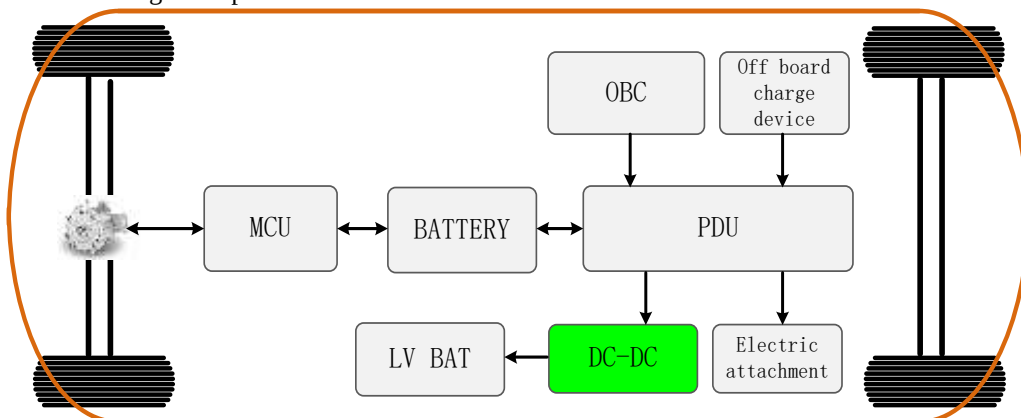
CABLE SIZE: 25MM2

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		

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 24V (+) auxiliary battery (LV BAT). 24V(-)auxiliary battery connects to the enclosure for ground protection.



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