



6KW DC/DC Converter Liquid

Product Portfolio

Items	Model No.	Input Voltage Range(Vdc) / Nominal	Rated Output (Vdc/A)	Output Voltage Range(Vdc)	Output Current Range(A)
1.	ATRD6K-360S275W	200-500 / 360	27.5/220	0-32	0-220
2.	ATRD6K-540S54W	400-900 / 540	54/111	0-68	0-111
3.	ATRD6K-540S275W	400-900 / 540	27.5 / 220	0-32	0-220
4.	ATRD6K-720S720W	600-1100 / 720	720 / 9	0-1000	0-9
5.	ATRD6K-540S72W	400-900 / 540	72/80	0-95	0-80
6.	ATRD6K-720S550W	600-1000 / 720	550 / 13	0-600	0-13

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

	Features - Output Power(KW): 6 - Input Voltage Range(VDC): 250 ~ 420 Nominal Input Voltage(VDC): 355 - Output Voltage Range(VDC): 27 ~ 28.5 Rated Output Voltage(VDC): 28 - Output Current Continuous(A): 0~220 - Output Current Max(A): 220 - Weight(KG): 8.5 ±0.5 - Cooling System: Liquid - IP Rating: IP67 - CAN compatibility: CAN2.0 B - Enclosure: Aluminum alloy - Isolated: Supported - Software: Digital software design - Online Upgrade & Fault Diagnosis: Supported
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1. Electrical Characteristics

1.1. Electrical Characteristics

14. Precharge circuit	Built-in
15. Precharge resistor	120R
16. Inrush current	≤11A
17. Bus capacitors	24uF
18. Voltage regulation accuracy	±0.2V
19. Typical efficiency	≥92%
20. Output peak power(Vdc)	36



1. Response time	<200mS
2. Run-up time	<1s
3. Output ripple and noise	$\leq 300\text{mVp-p}$ (The band width of oscilloscope should be 20MHz. The probe is in parallel with a 10uF electrolytic capacitor and a 104 ceramic capacitor(test with over 50A load.)
4. Static loss current	<1mA (The leakage current when high voltage power supply and 12Vdc control power supply are not connected, and output end is in parallel with a 14Vdc battery.)
5. Enable signal range	8-32V
Protection characteristics	
6. Input/output voltage protection	Input/output OVP/UVLP Can be self-recovering
Output short circuit protection	Hiccup, self-recovery when the fault is clear
Input power on sequence	1.high voltage first, and then control signals 2.control signals first, and then high voltage 3.high voltage and control signals are at the same time In above 3 kinds input power on sequence, the power supply can work normally, and no protection or damage.
Over temperature protection	When the water inlet temperature is over 75°C, output will be linear derating with temperature. When the temperature is over 85°C, power supply will turn off output. When temperature is under 80°C, output will be self-recovery.
Environmental condition	
Working temperature	-40°C~+85°C
Storage temperature	-40~95°C
Relative humidity	5%~95%
Altitude	0~3000m
Dust proof and waterproof	IP67
Cooling	Fan cooling/water cooling
Control method	CAN control and EN high level are efficiency relationship
Safety characteristics	
Dielectric strength	input—output 3000VDC Input-to-Protective Earth 3000VDC can bear DC 3500V for 1 minute, leakage current $\leq 1\text{mA}$, no breakdown, no flashover
Insulation resistance	input—output $\geq 50\text{M}\Omega$ test with input-output 1000Vdc, normal atmospheric pressure and relative humidity 90%
Charge dissipation capacity	≤ 60 10 minutes after DCDC power off
Vibration Resistance	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

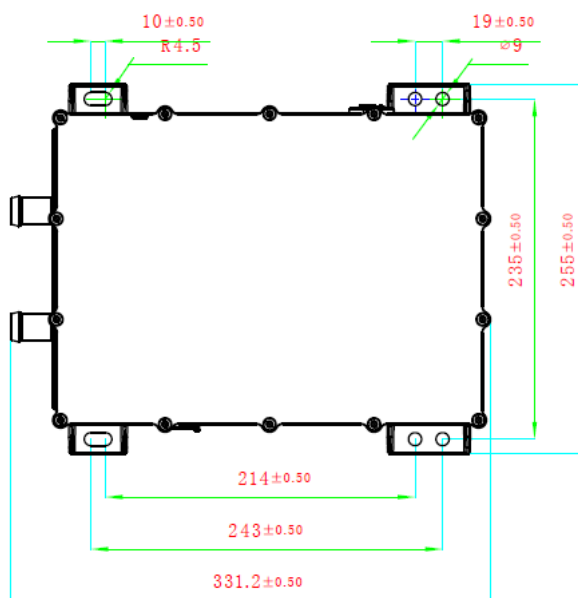


Impact Resistance	ISO 16750,4.2.2.2 See Requirements 6.5 in GB/T15139-1994
Resistance to Industrial solvents	Metal parts have a good corrosion protection layer
Salt Spray Resistance	See GB/T 2423.17
EMC characteristics	
7. Electromagnetic immunity	GB/T17619-1998 chap4
8. Electromagnetic disturbance	GB18655-2002chap 12 chap14

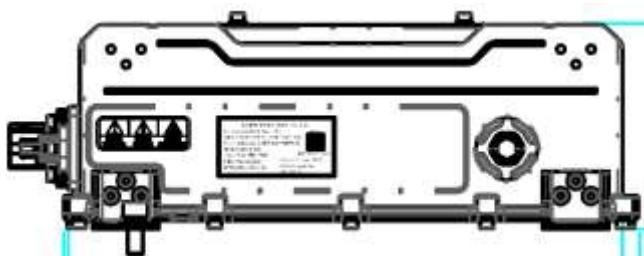
1. Dimensions and Weight

2. Product size

Top View



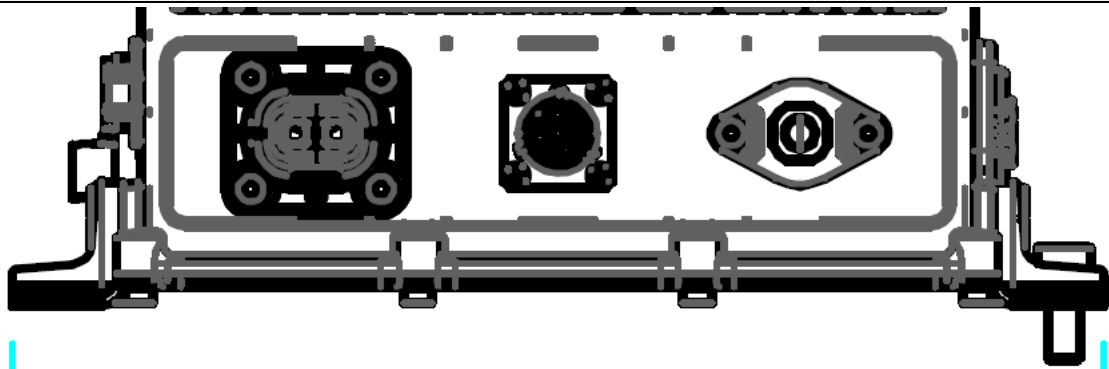
Side View





3. Define Connectors and Connection Terminals

Connectors Definition

Overview			
			
PARAMETER	CONDITION		MPN
Input connector (IN)	High-voltage connector with HVIL function Mating P/N: RED-T2PA H-2.5-A		Recodeal RED-72PA H-2.5-A
Output connector (OUT)	High-current output connector Mating interface: M8 screw terminal		Guoweitong GH01-F200-1NNB-T21
CAN BUS and signal interface (CTRL)	Panel-mounted signal connector Mating P/N: RT06128 SNHEC03		Amphenol RT00128 PN03
CONNECTOR	PIN	SIGNAL / FUNCTION	NOTE
RED-72PA H-2.5-A	1	INPUT-	2.5 mm ² ; High-voltage input negative
	2	INPUT+	2.5 mm ² ; High-voltage input positive
	A	HVIL	0.75 mm ² ; High-Voltage Interlock Loop
	B	HVIL	0.75 mm ² ; High-Voltage Interlock Loop
RT00128 PN03	A	CAN_H	0.75 mm ² ; CAN Wake-Up
	B	+24 V	0.75 mm ² ; KL30
	C	MAX	0.75 mm ² ; KL15 Hardwired Enable / Wake-Up
	D	CAN_L	0.75 mm ² ; CAN Wake-Up
	E	-24 V	0.75 mm ² ; KL31
	F	NC	Wire size: TBD; Not Connected
	G	NC	Wire size: TBD; Not Connected
	H	CAN_GND	Wire size: TBD; CAN Ground
GH01-F200-1NNB-T21	—	OUTPUT+	70 mm ² ; Connect to Guoweitong connector; M8 screw terminal
	—	OUTPUT-	70 mm ² ; Connect to battery negative terminal; M8 screw terminal