ANNREN TECHNOLOGIES CO., LTD.
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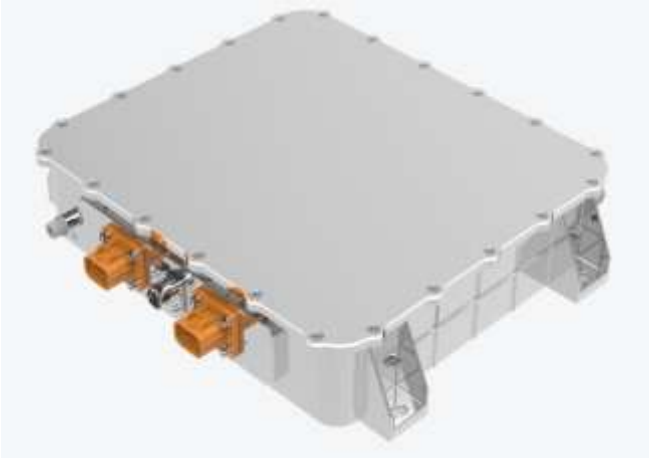
Input 220Vac Output 690Vdc 13KW On Board Charger liquid
Model No. ATRC13K-69018W-S



3D FILE NO.:
ATRC13K-W_902.19113501.00

Charging Mode: SAE

Features

1 Output Power(KW): 13
2 Input Voltage Range(VAC): 90~265 (1 Phase)
Nominal Input Voltage(VAC): 220 (1 Phase L:1 wire)
3 Output Voltage Range(VDC): 540 ~ 840
4 Rated Output Voltage(VDC): 690
5 Output Current Range(A): 0~ 18
6 Output Current Max(A): 18
7 Dimensions(mm): 310.6 x 90 x 83
8 Weight(KG): 15±0.5
9 Cooling System: Liquid flow rate ≥10L/min
10 IP Rating: IP67
11 Communication: CAN2.0 B SAE J1939
12 Enclosure: Aluminum alloy
13 Isolated: Supported
14 Software: Digital software design
15 Online Upgrade & Fault Diagnosis: Supported

Specification

Description		Remark
Input Voltage Range (VAC)	1 Phase(VAC): 90~265	
Rated Input Voltage (VAC)	220	Adjusted as per requirement
Output Voltage Range(VDC)	540 ~ 840	Adjusted as per requirement
Rated Output Voltage(VDC)	690	Adjusted as per requirement
Output current Range(A)	0 ~ 18	
Output current(A) (Max)	18	
Efficiency	≥94%	Rated input voltage, load＞30%
Output Voltage Accuracy	±1%	
Communication Method	CAN BUS 2.0 B SAE J1939	Baud Rate(Kbps): 250/500 for your choices
Rated Input Voltage Frequency(Hz)	60	

Operating Environment

The operating environment conditions of this assembly are as follows:

Items	Descriptions		Remark
1.	Operating Temperature(℃)	-40~85	The power will be derated when the temperature exceeds 65℃
2.	Storage Temperature(℃)	-40~95	
3.	relative humidity(%RH)	5～95	No condensation, no frost

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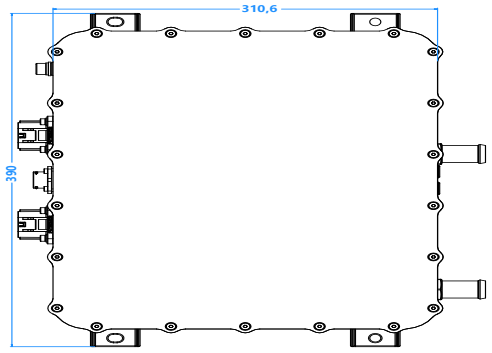
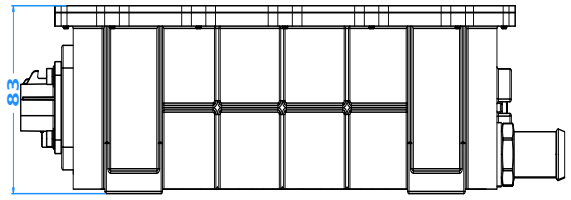
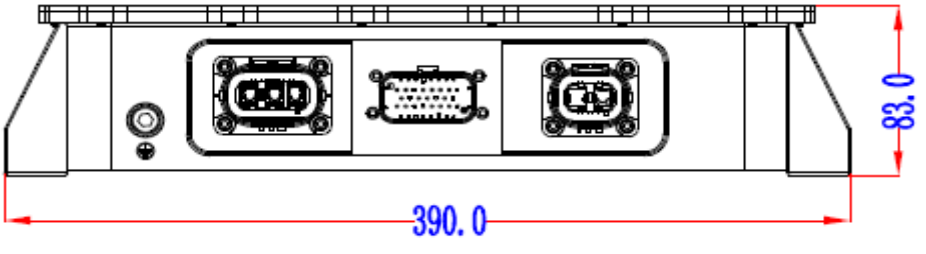
4.	Vibration level	ISO 16750-3,2012（E）	After X,Y,Z three directions of sweep frequency vibration testing, no damage for parts , no loose for fastening piece
5.	Noise level(dB)	< 60	
6.	Salt spray level	GB/T 2423.17	
7.	Altitude(M)Max	3000	GB/T16935.1-2008
8.	Fall	Wiring harness according to QC/T417.1-2001 Housing according to GB/T 2423.8-1995	Appearance, structure and performance are normal
9.	Protection Characteristics	Input OVP/UVP, output OVP/UVP, input anti-reverse connection, output short circuit protection, OCP, OTP	
10.	Electromagnetic immunity	GB/T17619-1998 chap4	
11.	Electromagnetic disturbance	GB18655-2002chap 12 chap14	

Dimensions(mm)







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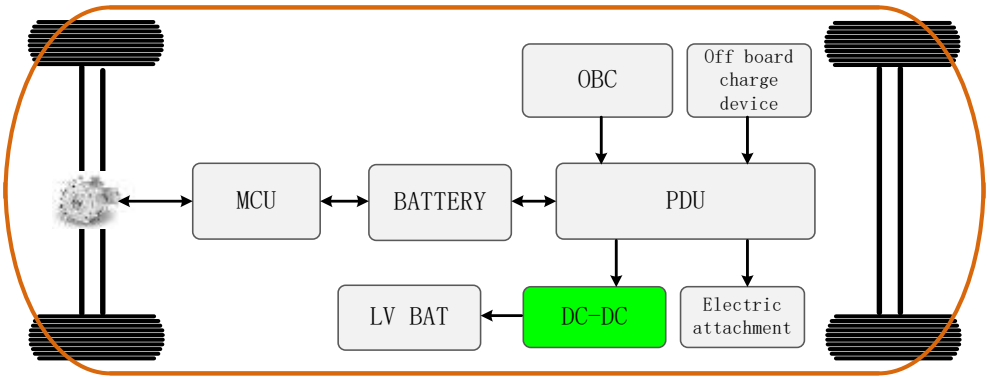

WIRING DIAGRAM

- **Item 1**: Signal control connects to the VCU or BMS.
- **Item 2**: AC input connects to the SAE single phase AC Charging inlet.
- **Item 3**: DC output connects to PDU or HV BATTERY.

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

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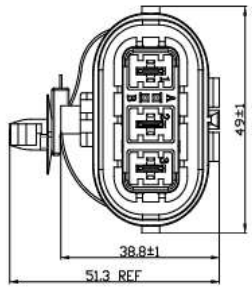
Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control_7A	TE	1-776228-1	770680-1
2	AC Input_40A	Recodeal	REMII-Z3PAH-6-A	REMII-T3PAH-6-A
3	DC Output_30A	Recodeal	REMII-Z2PAH-4-A	REMII-T3PAH-4-A

Interface Definition

AC Input(2) REMII-Z3PAH-6-A

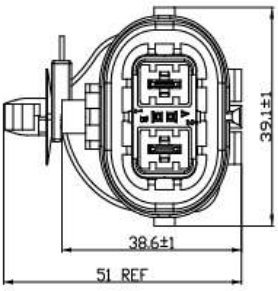


1	L 6MM2 CABLE
2	N 6MM2 CABLE
3	PE 6MM2 CABLE
A	HVIL_IN 0.75 MM2 CABLE
B	HVIL_OUT 0.75MM2 CABLE

1. 1/2/3 LNP Connector to < = 32 single phase AC Inlet

AB: connector to PDU or VCU or BMS for short current detection

DC Output(3) REMII-Z2PAH-4-A



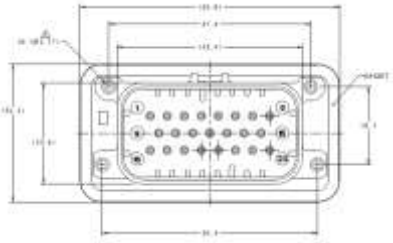
1	Output + 4MM2 CABLE
2	Output - 4MM2 CABLE
A	HVIL_IN 0.75 MM2 CABLE
B	HVIL_OUT 0.75 MM2 CABLE

1. 1 connect to HV Battery+
2. 2 Connect to HV Battery-

Or PDU DC/DC + & -

AB: connector to PDU or VCU or BMS for short current detection

Signal control(1) TE 1-776228-1



PIN 4/5/5/7/8/11/12/13: 075 MM2 CABLE
PIN 20/21: TWISTED PAIR 0.75MM2 CABLE

1	N/C	8 - 10	N/C	20	CANL					
2	N/C			21	CANH					
3	N/C	11	HVIL+	22 - 23	N/C					
4	KL15 HARDWAIRE ENABLE	12	HVIL-							
5	CP	13	GND							
6	PP(270Ω) for SAE charger	14 - 19	N/C							
7	BAT+(24V) Low voltage system (Vcc) Output Voltage(VDC)									

Remark: NC for non-connection

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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		

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