



产品规格书

Product Specification

产品名称 Title: Vehicle mounted DC-DC power supply

产品型号 Model: EVWD3K0027

设计号 Design NO: V1.0

日期 Date	2016-06-28
版本 Rev	V1.0
设计 Designed By	
审核 Checked By	
批准 Approved By	

Office: No.88 PiHe Rd, ECRIEE 101 Building, 230031, Hefei, Anhui, China
Factory: No.41 TianZhi Rd, Huadian Building, 230088, Hefei , Anhui, China
TEL: +86-551-65310080 62368818
FAX: +86-551-62371090
<http://www.ecu.com.cn>



版本更改记录 REVISIONS

[illegible]

目录

1.产品功能描述 PRODUCT DESCRIPTION	1
2.基本参数	1
3.电气特性 ELECTRICAL CHARACTERISTICS	1
3-1 输入特性 INPUT CHARACTERISTICS	1
3-1-1 输入电压/效率/输入电流 INPUT VOLTAGE/ FREQUENCY/ INPUT CURRENT	1
3-1-2 输入保护 INPUT PROTECTION	1
3-2 输出特性 OUTPUT CHARACTERISTICS	2
3-2-1 输出电压/电流 OUTPUT VOLTAGE / CURRENT	2
3-2-2 输出保护 OUTPUT PROTECTION	2
4.环境要求 ENVIRONMENT REQUIREMENT	错误!未定义书签。
5.安规及 EMC 特性 SAFETY& EMC CHARACTERISTICS	3
5-1 绝缘性能 WITHSTAND FUNCTION	3
5-2 EMC 要求 EMC REQUIREMENT	3
6.音响噪声 (WPA 型)ACOUSTIC NOISE	3
7.防护等级 PROTECTION LEVEL	4
8.机械规格 MECHANICAL SPECIFICATION	4
8-1 产品尺寸 PRODUCT DIMENSION	4
8-2 产品重量 PRODUCT WEIGHT	4
8-3 产品装配示意图 ASSEMBLY INDICATION	5
9.包装及运输 PACKING AND TRANSPORTATION	6
9-1 包装 PACKING	6
9-2 运输 TRANSPORTATION	6
10.其它 OTHER	6

1. 产品功能描述 Product Description

本产品是为电动大巴专业设计生产的隔离转换电源，它采用国际先进的数字模拟混合控制技术，输入与输出完全电气隔离，安全可靠。具有输入电压范围宽，输出功率大、安装方便、转换效率高输出电压稳定、保护功能全、可靠性高、使用寿命长等特点。

This product is an isolated on board converter for electric vehicle application. International advanced digital analog hybrid control technology is applied in this converter, input and output is completely isolated, making the converter safe and reliable. The features are include: wide input voltage range, large output power, convenient installation, high conversion efficiency, stable output voltage, complete protection function, high reliability, long service life and so on.

2. 基本参数 Basic Data

额定输入电压 Rated Input Voltage	输入电压范围 Input Voltage Range	额定输出电流 Rated Output Current	瞬态峰值输出电流 Transient Peak Output Current	额定输出电压 Rated Output Voltage
	300~850VDC	110A	120A	26.9V DC

3. 电气特性 Electric characteristics

3-1 输入特性 Input Characteristics

3-1-1 输入电压/效率/输入电流 Input Voltage/ Frequency/ Input Current

项目 Item	单位 UNIT	最小值 MIN	额定值 Rated	最大值 MAX	备注 Notes
输入电压 Input Voltage	V DC	300		880	正常工作电压范围 Normal operating Voltage Range
效率 Frequency	%	/	96%		额定输入, >96%@半载至满载 Rated Input, >96%@Half load to full load
最大输入电流Maximum Input Current	A	/	11A	/	300V输入, 满载 300V input, full load
静态损耗电流 Static Loss Current	A	/	1mA	/	空载 No load

3-1-2 输入保护 Input Protection

项目 Item	保护点 Protection Point	恢复点 Recovery Point	备注 Notes
输入过压 Input Over Voltage	890±15V DC	890±15V DC	输入过压时电源关闭输出; 到达恢复点后自动恢复 Shut down, auto-recovery
输入欠压 Input Under Voltage	290±5V DC	290±5V DC	输入欠压时电源关闭输出; 到达恢复点后自动恢复 Shut down, auto-recovery

输入反接 Input Reverse Connection	/	/	不允许输入电压极性接反 Input voltage polarity reverse is not allowed
----------------------------------	---	---	--

3-2 输出特性 Output Characteristics

3-2-1 输出电压/电流 Output Voltage / Current

项目 Item	单位 UNIT	最小值 MIN	典型值 Typical	最大值 MAX	备注 Notes
额定输出电压 Rated Output Voltage	V DC	27	27.5	27.8	
额定输出电流 Rated Output Current	A	/	110	/	
峰值输出电流 Peak Output Current	A		120		

3-2-2 输出保护 Output Protection

项目 Item	保护点 Protection Point	误差 Error	注释 Notes
输出过流保护 Output over current protection	120A	±5 A	限流, 限流状态退出后输出电压自恢复 Constant current limiting, auto-recovery
输出过压保护 Output over voltage protection	>31V DC	±1 V	关闭输出, 同时上报和存储保护信息, 正常时自动恢复 Shut down, report and record protection information, auto-recovery
过温保护 Over temperature protection	有过温保护功能, >85°C过温保护。当温度降至安全温度后自动恢复。 Over temperature protection function >85°C, Shut down output voltage. Recovers automatically after temperature goes down		
短路保护 Short Circuit protection	关机保护, 直到故障解除, 自动恢复。 Shut down, auto-recovery		

4.环境要求 Environment Requirement

项目 Item	应用环境 Application environment
工作温度 Working temperature	-40~60°C with no derating ;
工作湿度 Working humidity	5%-90%, 无冷凝。 5%-90%, non-condensing
存储场所 Storage place	温度、湿度受控场所 Temperature and humidity controlled place
存储温度 Storage temperature	-40~85°C
存储湿度 Storage humidity	10 ~ 90%

5.安规及 EMC 特性 Safety& EMC characteristics

5-1 绝缘性能 Withstand function

项目 Item	测试方法 Test Method	测试条件 Test Conditions
绝缘电压 Withstand voltage	输入-输出 Input-Output	3000VDC 60s. ≤10mA 无击穿与飞弧现象 3000VDC 60s. ≤10mA No breakdown and flashover
	输入-机壳 Input-Case(FG)	3000VDC 60s. ≤10mA 无击穿与飞弧现象 3000VDC 60s. ≤10mA No breakdown and flashover
绝缘阻抗 Withstand Impedance	输入-输出 Input-Output	500VDC ≥20MΩ /min (标准气压、环境湿度时) 500VDC ≥20MΩ /min(Standard air pressure、ambient humidity)
	输入-外壳 Input-Case(FG)	500VDC ≥20MΩ /min (标准气压、环境湿度时) 500VDC ≥20MΩ /min(Standard air pressure、ambient humidity)

5-2 EMC 要求 EMC requirement

ECE R10

电磁兼容性： GBT 18387-2008发射强度的限值和测量方法 宽带9kHz~30MHz》的要求。

EMC: GBT 18387-2008 limits and measurement methods of electromagnetic field emission intensity for electric vehicles, broadband 9kHz~30MHz requirements

6.音响噪声 (WPA 型)Acoustic noise

噪声 Noise	应用环境 Application environment
< 55dBA	在额定工作状态下, 距离噪声源1M,模块运行的工作噪声。 Under rated operating conditions, one meter away from the noise source,

test the operating noise of the converter

7.防护等级 Protection level

标准 Standard	级别 Level
IEC529	Part No. EVWD3K0027WPA IP65(除风扇, IP55 含风扇) Part No. EVWD3K0027WPA IP65(Fan removal, IP55 Contains fan)

8.机械规格 Mechanical Specification

8-1 产品尺寸 Product Dimension

单体式车载 DC-DC (**Part No. EVWD3K0027WPA**) 尺寸不会超过:

In-housing Converter (**Part No. EVWD3K0027WPA**) dimension will not exceed:

长度(L)-----236mm

宽度(W)-----145mm

高度(H)-----100mm

此尺寸包括密封盖板及Fin, 安装法兰、螺丝、电缆固定接头以及风扇罩不包含在内。

This size includes a sealing cover plate and Fin, mounting flange, screw, cable fixing joint and fan cover are not included.

开板式车载 DC-DC (Part No. **EVWD3K0027OFC**) 尺寸不会超过:

Open frame converter (Part No. **EVWD3K0027OFC**) dimension will not exceed:

长度(L)-----200mm

宽度(W)-----140mm

高度(H)-----58mm

8-2 产品重量 Product weight

单体式产品重量不超过4.2Kg.

In-housing converter: weight is not more than 4.2 Kg.

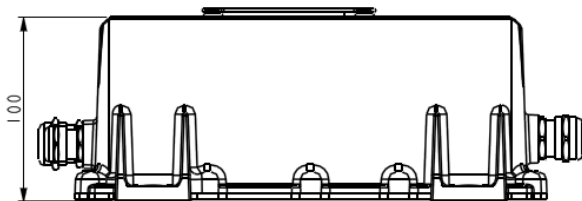
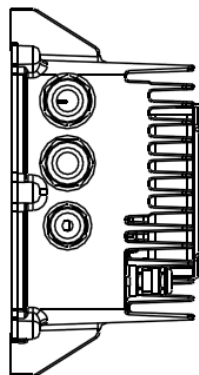
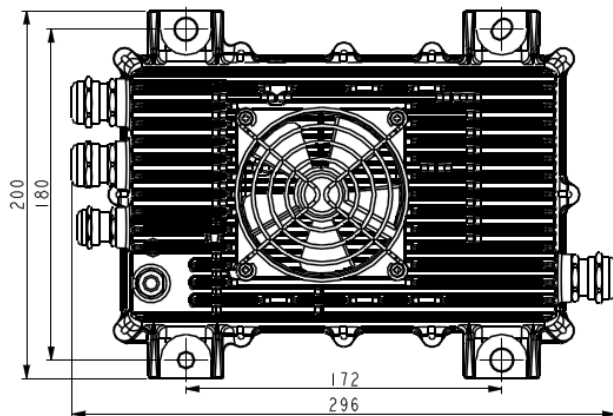
开板式重量不超过2.3Kg.

Open frame converter: weight is not more than 2.3Kg

8-3 产品装配示意图 (DCDC 需用 M8 螺栓固定安装法兰)

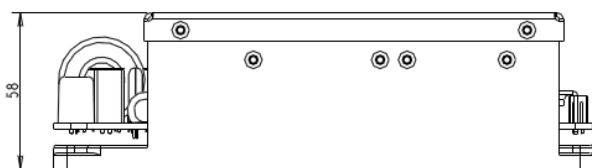
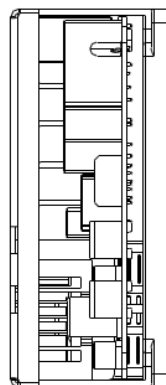
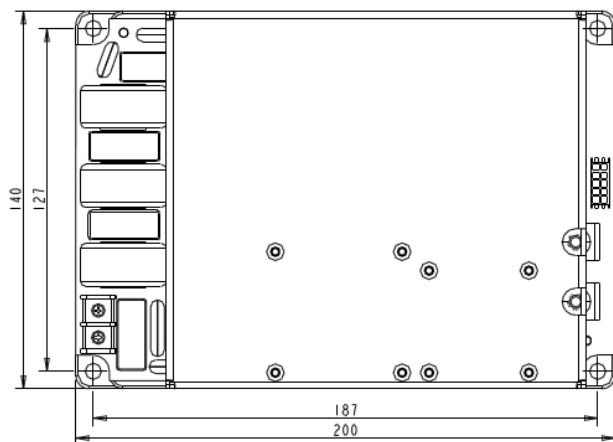
Schematic diagram of product assembly (DC-DC Need M8 bolt fixing mounting flange)

In-housing part no. EVWD3K0027WPA:



输出电缆固定接头: BEISIT M2012BRL 2 个;
Output cable fixing joint BEISIT M2012BRL*2
输入电缆固定接头: BEISIT M2012BRL 1个;
Input cable fixing joint BEISIT M2012BRL*1
信号电缆固定接头: BEISIT M1606BRL 1个;
Signal cable fixing joint BEISIT M1606BRL*1

Open frame part no. EVWD3K0027OFC:



9.包装及运输 Packing and transportation

9-1 包装 Packing

包装箱由产品名称、型号、厂家标识及检验合格证、生产日期等；箱内有附件清单。

Packing box has product name, model, manufacturer identification and inspection certificate, production date, etc, there is a list of accessories in the box.

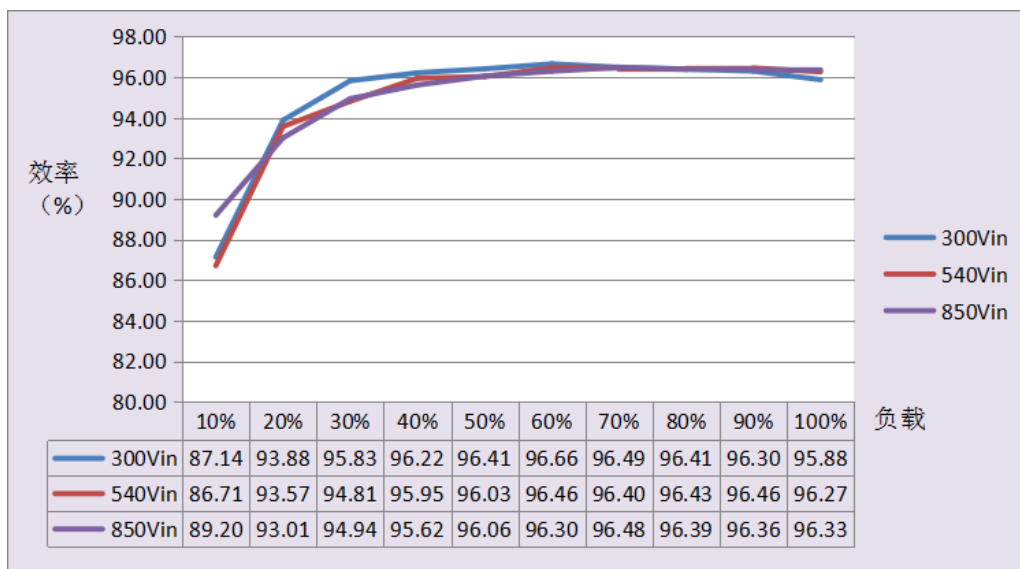
9-2 运输 Transportation

适用于车、船、飞机运输。

Suitable for vehicles, ships, aircraft transport

10.其它 Other

Output Efficiency Curve



Output Power derating Curve

