1. General.

DC25XX is DC-DC converter adopted with advanced high frequency electronic converting technology, A high performance on-board DC/DC converter specially developed for electric vehicles.The main features are:

(1) Input and output are completely electrically isolated, safe and reliable.
(2) The highest efficiency exceeds 94.5%.
(3) Small size.High power density.
(4) Multi-stage power conversion technology is adopted. Compatible with wide input voltage range 80-180 V/200-450 V.
(5) Soft switching is used. And that Lost of the power device is reduced. The performance of the product is greatly improved.
(6) High Peak Power, Strong overload capacity. Meet the requirements of impact load.
(7) Have the ability of CAN communications, LV enable control, HV sleeping function;

2. Environmental conditions.

	Project	Technical indicators			Unit.	Remark
		Min.	Typ.	Max.		
1	Operating ambient temperature.	-30	+25	+85	℃	It starts at 40 degrees below zero.The ambient temperature is above 55 degrees,derating output is allowed.
2	Storage ambient temperature	-40	+25	+105	℃	
3	Relative Humidity	5		95	%	No condensation
4	Cooling mode	Fore Air Cooling			-	
5	Degree of protection	IP67			-	Case part
6	Operating noise	< 60			dBA	Air Cooling
7	Anti-vibration level	GB 413-2002 3.12			-	

3. Electrical performance.

3.1 Input Characteristic.

	Project	Technical indicators			Unit	Remark
		Min.	Typ.	Max.		
1	Input Voltage Range	81	108	180	Vdc	
2	Input current.			17.0	A	
3	Input surge current.			19	A	

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3.2 Output Characteristic.

	Project		Technical indicators			Unit	Remark	
			Min.	Typ.	Max.			
1	Rated output voltage.			13.8±0.2		Vdc	It can be adjusted according to system requirements.The adjustment range is 10.8 ~ 15V.	
2	Rated output power.			1200		W	100-180V	
3	Peak output power.			1500		W	100-180V	
4	Voltage regulation.			＜±1		%	Voltage stabilization accuracy.	
5	Load regulation.			＜±1		%		
6	Current reporting error.			＜1		A	＜5A	Report the error.
				＜0.5			>5A	
7	Voltage reporting error.			＜0．2		V		
8	*Current control error.*			＜1		A	Control accuracy.	
9	Voltage control accuracy.			＜0．2		V		
10	Work efficiency.			＞92.5		%	Rated load/Rated input voltage.	
				＞93.5			.Half-load efficiency.	
11	Maximum Output Current.			110±2		A	100-180V	
				80±2		A	80-100V	
12	Output ripple and noise.			＜300		mVp-p	20 MHz broadband.output connect with 10uF Electrolytic capacitor and 0.1 uF Ceramic chip capacitor.	
13	Transient respons e.	Extended Value		＜5		%	30%-80%-30% Load sage changing. Extent 100A/ms.	
		Recovery time.		＜500		μs		

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14	Rental dark current.	≤ 1	mA	Secondary side wake up and sleep via wiring enable.

4. **Protection and control functions.**

	Project		Technical indicators			Unit	Remark
			Min.	Typ.	Max.		
1	12V enable	Signal voltage.	9	13.8	16	Vdc	When the DCDC input enables the signal.DCDC Power-on.When DCDC enbale signal lost or earth connected, DC DC power off.
		Signal current.			2	mA	
2	Input under voltage protection.	Protection point	72±2			Vdc	Timely protection.Can be automatically resumed.Timely protection.Can be automatically resumed.
		Recovery point	78±2			Vdc	Timely protection.Can be automatically resumed.
3	Input over voltage protection.	Protection point	190±2			Vdc	Timely protection.Can be automatically resumed.
		Recovery point	182±2			Vdc	Timely protection.Can be automatically resumed.
4	Output under voltage protection.	Protection point	7.0±1			Vdc	Timely protection.Can be automatically resumed.
		Recovery point	9.0±1			Vdc	Timely protection.Can be automatically resumed.
5	Output over voltage protection.	Protection point	16.0±0.5			Vdc	greater than the protection point, the output is turned off.
		Recovery point	15.5±0.5			Vdc	Smaller than Protection Point, work normally.
6	Output current limit protection.		110±2			A	100-180V
			80±2			A	80-100V
7	Output short-circuit protection.		burp protection			-	Timely protection.Can be automatically resumed.
8	Input reverse connection protection.		DC-DC Do not start after reversion			-	

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9	Overheat protection.	Power attenuation.	100（Major）/112（Secondary	℃	。 When the temperature reaches the decay.Module limit power output.
		Protective shutdown.	100（Major）/112（Secondary	℃	Meet any one, shut off output voltage
		Protective recovery.	100（Major）/112（Secondary	℃	Meet all, work normally.
10	CAN Communication		12V enable or Can BUS communication		
	Control		12V enable control the turn on/off, and sleep mode.		

5. Safety and EMC;

			Technical indicators			Unit	Remark
			Min.	Typ.	Max.		
1	Withstand voltage.	Input to output.		2120		Vdc	The leakage current ≤5mA，1min，No breakdown, no flashover, basic insulation.
		Input to the earth.		2120		Vdc	
2	Insulation resistance.	Input to output		≥50		MΩ	Test voltage. 500Vdc
		Input to the earth		≥50		MΩ	
3	EMI）	RE		GB/T 18655-2010：6.4		-	
		CE					
4	Electromagnetic anti-interference.(EMS)	Radiated immunity.		GB/T 6113.1		-	
		Large current injection.		ISO 11452-4:2005:7			
		RF immunity.		ISO 11452-9			
		Conducted immunity.		ISO 7637-2:2004 :5			
		Transient conducted immunity.		ISO 7637-3:2007:3.4.2			
		Electrostatic		ISO 10650-2008			

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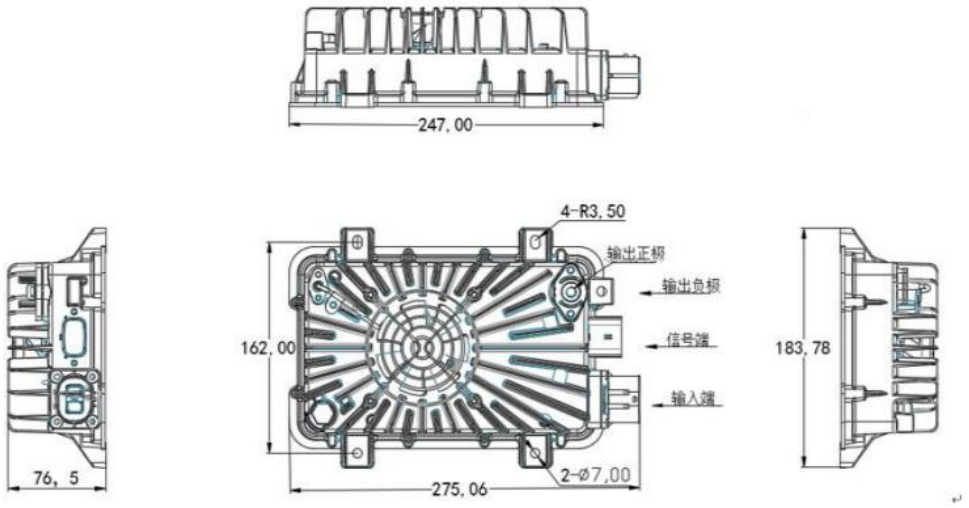
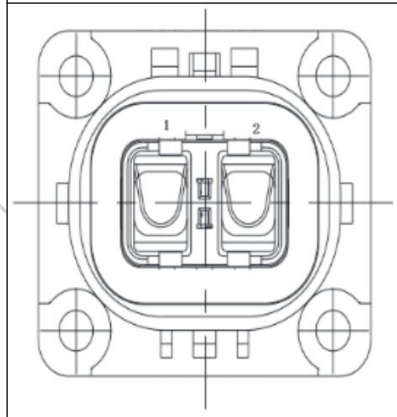
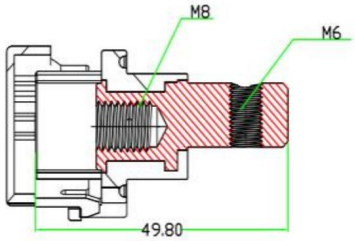
		discharge.			

6. Structure and interface description.

6.1 Structural diagram.



6.2 Interface definition.

Connectors	Definition			
	1	Input+	1	REM-Z2PAH-6-A (Left +. Right -)
	2	Input—	2	
	3	Output+	NA	ACTB142-C-N
On Case	4	Output-	NA	M8

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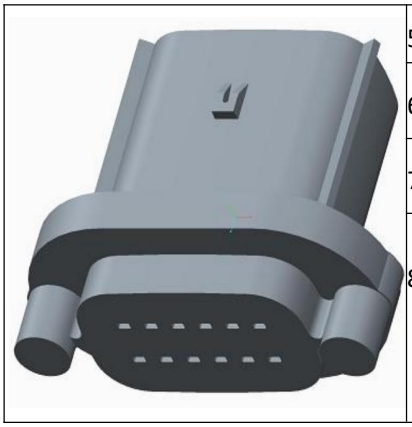
	5	CANH	5	
	6	CANL	6	
	7	Output Earth	1	Output -
	8	Enable	3	Wiring Enable

7. Precautions for use.

(1) Please confirm that the system input voltage range is within the allowable input voltage range of the DC/DC converter.

(2) The converter is not equipped with an input fuse.It is recommended that the module be equipped with a 25A 600V fuse on the input side.

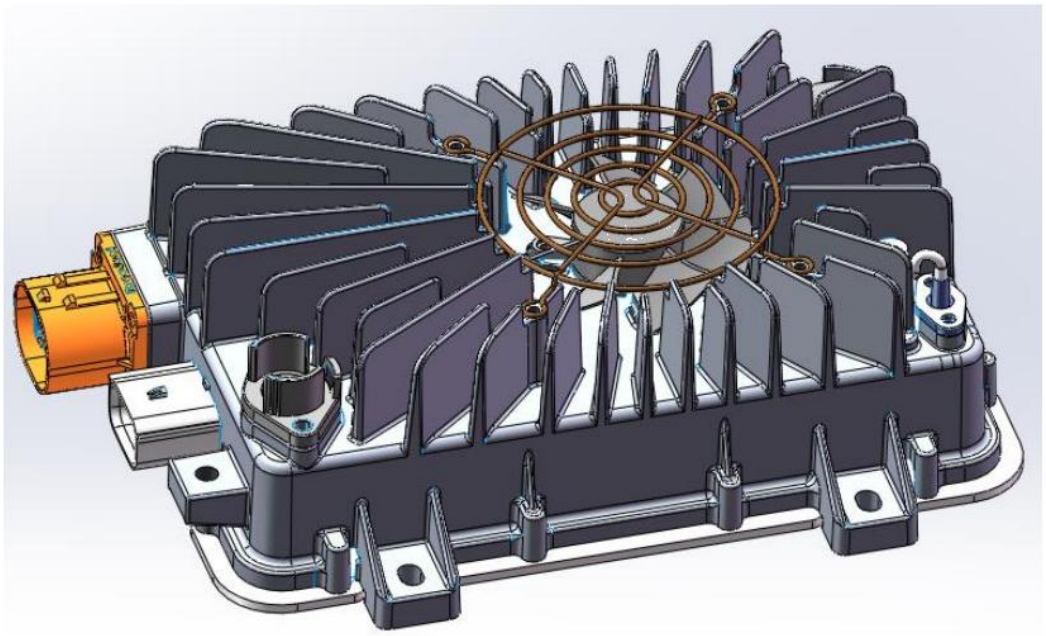
(3) Please confirm that the input positive and negative polarities are correct when using.

(4) A 12 volt auxiliary pow supply is required on that output side of the DC/DC convert.To provide DC DC internal startup power.

(5) When the output side is connected to the 12V auxiliary power supply. Please confirm that the positive polarity is correct.

(6) Do not mix and reversely connect the input line and the output line.

(7) Please avoid hot swapping.Cause of high power, Please confirm that the input end connector is firmly connected, and then turn on the front and main power switch or contactor.Otherwise there is a phenomenon of ignition at the connector.



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